



REGISTERED AS A NEWSPAPER
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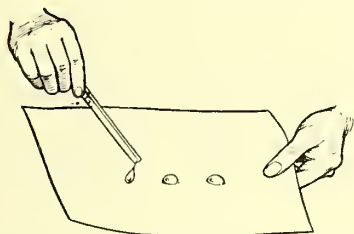


Fig. 1.

A few drops of urine are transferred to a quarter-sheet of note paper by means of a folded strip of paper.

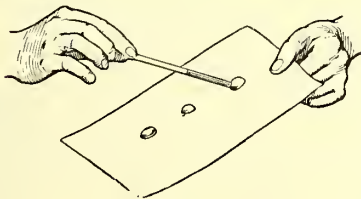


Fig. 2.

The end of the Endolytic Tube is allowed to touch one of the drops of urine, when the latter will be absorbed into the reagent by capillary attraction.

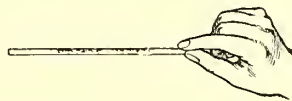


Fig. 3.

The Salicyl-Sulphonic Acid reagent will indicate the merest trace of Albumin. The negative results are always **absolute**, and the positive results free from fallacies. A precipitate with Salicyl-Sulphonic Acid is either Albumin (*kidney condition*) or Albumose *not a kidney condition*. To distinguish, heat the Endolytic Tube as described under the next test. Permanence of the precipitate indicates Albumin, while its disappearance on heating indicates Albumose.

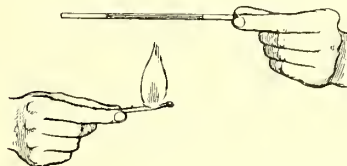


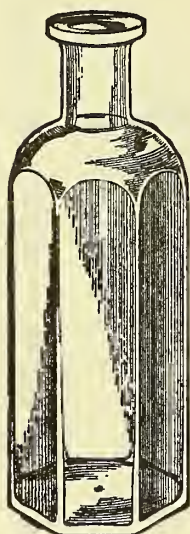
Fig. 4.

After a drop of urine has been absorbed in the Fehling Tube, the reaction may be completed by heating with a wax vesta, or (preferably) by a little boiling water.

ENDOLYTIC TUBES for each of the above tests are supplied in boxes of 25 at 2/- each. Cases containing four boxes (100 Tubes), all one kind or assorted, 7/6, including nickel-plated pocket case.

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Amber and Actinic "Ideals"...	5/8	6/2	7/-	7/10	8/7	10/3	13/2	15/1	18/3	19/11	25/10	31/2
W.G. "Ideals" Stopped ...	19/11	20/5	21/6	22/-	23/5	25/10	30/1	35/10	36/7	39/9	47/4	51/7
Amber and Actinic "Ideals" Stopped ...	20/5	21/6	22/4	23/1	24/2	27/5	31/9	35/6	39/3	41/11	50/6	55/11

Compare these quotations with those of other bottles, especially the stoppered ones,

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A PAYING SIDE-LINE TO ATTRACT CUSTOMERS!

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We ask Advertisers to give this matter their attention now, and to communicate with THE PUBLISHER, "THE CHEMIST AND DRUGGIST," 42 CANNON STREET, LONDON, E.C., who will be happy to give further particulars if desired.
July 25, 1914.

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Holiday & Co.

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Idris & Co., Ltd.
Jewsbury & Brown

AGENCIES, COLONIAL, &c.

Kemp, Campbell & Co.
Lennon, Ltd.
Longmore, Francis, & Co.

AIR CUSHIONS

Burge, Warren & Ridgley, Ltd.

ALKALOIDS

Boehringer, O. F., & Soehne
Boehringer, O. H., Sohn
Howards & Sons, Ltd.
Macfarlan, J. F., & Co.
Merok, E.
Morson, T., & Son
Roques, Ferdinand
Smith, T. & H., Ltd.
Whiffen & Sons, Ltd.
Widenmann, Broicher & Co., Ltd.

ALMOND OIL

Allen, Stafford, & Sons, Ltd.

ALUMINIUM BOXES

Buncher & Haseler, Ltd.
Eley Bros., Ltd.

AMBULANCE BOXES

Taylor, Law & Co., Ltd.

AMBULANCE OUTFITS

Hall Forster & Co., Ltd.

AMERICAN PROPRIETARIES

American Drug Supply Co.
Roberts & Co.

AMMONIA AND SALTS

Brunner, Mond & Co., Ltd.
Scrubb & Co., Ltd.

AMPOULE FILES

Sim, Ltd.

ANÆSTHETICS

Duncan, Flockhart & Co.
Howards & Sons, Ltd.
Macfarlan, J. F., & Co.
Smith, T. & H., Ltd.

ANALYTICAL CHEMICALS

Hopkin & Williams, Ltd.

ANILIN DYES

Crawshaw, E., & Co.

ANNATTO

Fullwood, R. J., & Bland
Tomlinson & Hayward, Ltd.

ANTI-RHEUMATIC RINGS

Burge, Warren & Ridgley, Ltd.

ANTISEPTICS

Chemische Fabrik von Heyden
Sanitas Co., Ltd.

ARTIFICIAL LIMBS

Ferris, J. & E.
Haywood, J. H., Ltd.
Maw, S., Son & Sons

ASTHMA REMEDIES

Barolay & Sons, Ltd.
Hair, B. W., & Son
Lofthouse & Saltmer, Ltd.
Potter & Clarke, Ltd.

BALSAMS

Dodge & Oloott Co.

BATH GLOVES

Solport Bros.

BATHING CAPS

Tompkins, Jas., Ltd.
Maw, S., Son & Sons
May, Roberts & Co., Ltd.

BAY RUM

Knox Walker, J., & Co., Ltd.

BED SHEETING

Ingram, J. G., & Son

BEEBLE EXTERMINATORS

Danyz Virus, Ltd.

BINOCULARS

Raphael's, Ltd.
Scott, Adolph

BISMUTH SALTS

Alliance Drug and Chem. Co.
Burgoyne, Burbidges & Co.
Howards & Sons, Ltd.
May & Baker, Ltd.
Morson, T., & Son
Tyner, T., & Co., Ltd.
White, Alfred, & Sons

BODY BELTS

Schutze, F., & Co., Ltd.
Scientific Truss Co., Ltd.
Wood, Vincent

BOOKS, &c.

Crosby Lockwood & Son
Lewis, H. K.
Martindale's "Extra Pharm."
Squire's "Companion"

BORAX

Borax Consolidated, Ltd.

BOTANIC DRUGGISTS

Newball & Mason
Potter & Clarke, Ltd.

BOXES

Ford, Shapland & Co.
Glover, C. H., & Co., Ltd.
Robinson & Sons, Ltd.
Rogers & Co.
Stipendium Stopper Co.
Waide, T., & Sons

BOTTLES, JARS, &c., GLASS

Barnett & Foster
Bush, H. W., & Co., Ltd.
Ferry, T., & Son, Ltd.
Gaasch, J. B.
"Ideal" Bottle
Isaacs, I., & Co.
Maw, S., Son & Sons
Melin, C., & Co.
Orrock, R., & Co.
Pothe, H., & Co.
Swales, Thomas
Universal Bottle Co.
Vouldon, E., Ltd.

BOXES, GREASEPROOF

Rogers & Co.

BRUSHES

Bidwell, Bidwell & Co., Ltd.
Hovenden, B., & Sons, Ltd.
Kent, G. B., & Sons, Ltd.
"Koh-i-Noor"
Maw, S., Son & Sons
Titterton & Howard
Turner, Son & Co., Ltd.

BUNION REDUCER

Scholl Mfg. Co., Ltd.

BUTTER COLOURING

Fullwood, R. J., & Bland
Oldfield, Pattinson & Co.

CACHETS AND APPARATUS

Christy, Thos., & Co.
Clark, Cicero S.
Lorimer-Marshall, Ltd.
Warrick Brothers, Ltd.

CACHOUS

Potter & Clarke, Ltd.

CACODYLATES

Roques, Ferdinand

CALF LYPH

Heinemann, W.

CAMERAS

Bnother, W., & Sons, Ltd.

CAMOMILE OIL

Jakson, John, & Co.

CAMPBOR

Alliance Drug & Chemical Co.
 Howards & Sons, Ltd.
 May & Baker, Ltd.
 Whiffen & Sons, Ltd.

CAPS FOR BOTTLES, &c.

Airtight Capsules Co., Ltd.
 Betts & Co., Ltd.
 Darter, Wilkinson & Co.
 Smith Bros. & Co., Ltd.
 Viscose Development Co., Ltd.
 (Self-fixing)

CAPSULED PILLS

McKesson & Robbins

CAPSULES (VARIOUS)

Denoual, Julee, & Co.
 Evans Sons Lescher & Webb, Ltd.
 Mawson & Co.
 Stevenson, H. E., & Co.
 Tye, John, & Son
 Warrick Bros., Ltd.

CASH TILLS

British Machine Co., Ltd.
 Gledhill, G. H., & Sons, Ltd.
 National Cash Register Co., Ltd.

CATHETERS

Mason Bros. & Chapman
 Warne, Wm., & Co., Ltd.

CAUSTIC SODA

Brunner, Mond & Co., Ltd.

CEMENTS

Kay Bros., Ltd.
 Mendit, Ltd.

CHALK, PRECIPITATED

Levermore, A., & Co., Ltd.
 Mumford, G. S., & Sons
 Nichols Chemical Co., Ltd.
 Sturge, John & E., Ltd.

CHEMICAL PLANT

Forshaw, E., & Son, Ltd.

CHEMICAL REAGENTS

Hopkin & Williams, Ltd.

CHEMICALS

Bayer Co., Ltd.
 Bramwell, E., & Son, Ltd.
 British Drug Houses, Ltd., The
 Brunner, Mond & Co., Ltd.
 Burgoyne, Burbridges & Co.
 Burroughs Wellcome & Co.
 Carnegie Bros.
 Chemische Fabrik von Heyden
 Corbyn, Stacey & Co., Ltd.
 Curling, Geo., Wyman & Co.
 Evans Sons Lescher & Webb, Ltd.
 Hopkin & Williams, Ltd.
 Howards & Sons, Ltd.
 Knoll & Co., Ltd.
 Martindale, W.
 May & Baker, Ltd.
 Merck, E.
 Morson, T., & Son
 Sturge, John & E., Ltd.
 Tyrer, T., & Co., Ltd.
 Washington Chemical Co., Ltd.
 Whiffen & Sons, Ltd.
 White, A., & Sons
 Widenmann, Broicher & Co., Ltd.

CHEST PROTECTORS

Scientific Truss Co., Ltd.

CHLORATES, PER-

Société d'Electro-Chimie

CHLORIDE OF LIME

Brunner, Mond & Co., Ltd.

CHLORODYNE

Davenport, J. T., Ltd.
 Freeman's Chlorodyne, Ltd.
 (Inset)

CHLOROFORM

Burroughs Wellcome & Co.
 Duncan, Flockhart & Co.
 Macfarlan, J. F., & Co.
 May & Baker, Ltd.
 Smith, T. & H., Ltd.

CHRYSAROBIN

Carnegie Bros.

CIGARS AND CIGARETTES

Singleton & Cole, Ltd.

CLINICAL THERMOMETERS

Burge, Warren & Ridgley, Ltd.
 Bush, H. W., & Co., Ltd.
 Hicks, James J.
 Maw, S., Son & Sons
 Perken, Son & Co., Ltd.
 Pillscher, J.
 Powell, J. T., & Co.
 Zeal, G. H.

CITRIC ACID AND CITRATES

British Drug Houses, Ltd., The
 Burgoyne, Burbridges & Co.
 Howards & Sons, Ltd.
 Sturge, John & E., Ltd.

CLOTH BALLS

O'Neil, Zetts & Co.
 Senior, Alf., & Co.

COAL TAR SPECIALITIES

Wright, Layman & Umney, Ltd.

COCAINE

Boehringer, O. F., & Soebne
 Buchler & Co.
 Merck, E.

COCKROACH PASTE

Howarth & Fair

COCOA

Cadbury Bros., Ltd.
 Plasmon, Ltd.

COD LIVER OIL

British Drug Houses, Ltd., The
 Bugge, Johann, & Co.
 Evans Sons Lescher & Webb, Ltd.
 Sonthall Bros. & Barclay, Ltd.
 Sparks, White & Co., Ltd.
 Wright, Layman & Umney, Ltd.

COLLAPSIBLE TUBES

Betts & Co., Ltd.

COMBS

Gripwell
 Hovenden, R., & Sons, Ltd.
 Simplex Conduits, Ltd.

COMPLEXION SPECIALITIES

Adair, Mrs. E.

CONDENSERS

Bennett, Sons, and Sbears, Ltd.

CONFECTIONERY, MEDICATED

Guest, Thos., & Co.
 Pascall, James, Ltd.

CONTINENTAL PROPS.

Bresillon, M., & Co.
 Kopp & Joseph
 Roberts & Co.
 Schaebt, Warner & Co.
 Wilcox, Jozean & Co.

COPPERSMITHS

Braithwaite, H., & Co.

CORKS

Mitchell, N. W., & Sons, Ltd.

CORN PLASTERS

Beiersdorf, P., & Co.
 Scholl Mfg. Co., Ltd.
 Solport Bros.

CORRUGATED PAPER

Brightling, Geo. C., & Co., Ltd.

COUNTER ADJUNCTS

Evans Sons Lescher & Webb, Ltd.

COUNTER SPECIALITIES

Allen & Hanburys, Ltd.
 British Drug Houses, Ltd., The
 Burgoyne, Burbridges & Co.
 Curling, Geo., Wyman & Co.
 Hewlett, O. J., & Sons, Ltd.
 Sonthall Bros. & Barclay, Ltd.
 Wright, Layman & Umney, Ltd.

COUNTING AND FILING MACHINE

Forgrove Machinery Co., Ltd.

COURT PLASTER

Solport Bros.

CREOSOTE

Baiss Bros. & Stevenson, Ltd.
 Morson, T., & Son

CREPE BANDAGES

Gimber, W., & Son
 Burge, Warren & Ridgley, Ltd.
 Norwob Crepe Co. (1856), Ltd.
 Wood, Vincent

CYANIDES

May & Baker, Ltd.

DAIRY SPECIALITIES

Fullwood, R. J., & Bland
 Oldfield, Pattinson & Co.
 Tomlinson & Hayward, Ltd.

DENTAL MECHANICS

Fentiman, A. G.
 Fentiman, A. J., & Co.
 Halder, E. C.
 Templar Malins, Ltd.
 Wardale, F. C., & Co.

DENTAL TOOLS, &c.

Edwards' Dental Mfg. Co., Ltd.

DEVELOPERS (PHOTO)

Evans Sons Lescher & Webb, Ltd.
 Express Developing Co.
 Johnson & Sons (Mfg. Chts).

DENTIFRICES

Beecham, T.
 Bell (John), Hills & Lucas, Ltd.
 Beiersdorf, P., & Co.
 Berliner, Artbur
 Blackie, Robert
 Calvert, F. O., & Co.
 Christy, T., & Co.
 Cook, E., & Co., Ltd.
 Cox, Arthur H., & Co., Ltd.
 Eueryl, Ltd.
 Gibbs, D. & W., Ltd.
 Hayden Coffin T. P.
 Jewsbury & Brown
 McKesson & Robbins
 Maw, S., Son & Sons
 Odol Chemical Works
 Parke, Davis & Co.
 Standard Tablet & Pill Co., Ltd.
 Woolley, J., Sons & Co., Ltd.

DEXTRINE

Fink, F., & Co.

DIABETIC FOODS

Scott, R. M.

Van Abbott, G., & Sons

DIGESTIVE PRODUCTS

Fairchild Bros. & Foster

DISINFECTANTS

Baiss Bros. & Stevenson, Ltd.
 Burt, Boulton & Haywood, Ltd.
 Calvert, F. O., & Co.
 Condy & Mitchell, Ltd.
 Cook, E., & Co., Ltd.
 Ellison, Henry, Ltd.
 Sanitas Co., Ltd.
 Stevenson, H. E., & Co.
 Willows, Francis B. & T., Ltd.
 Wright, Layman & Umney, Ltd.

DISINTEGRATORS

Hardy Patent Pick Co., Ltd.

DRUGGISTS' SUNDRIES

Ayrton, Saunders & Co., Ltd.
 Barclay & Sons, Ltd.
 Berliner, Arthur
 Brook, Parker & Co., Ltd.
 Bryttele Manfg. Co.
 Burge, Warren & Ridgley, Ltd.
 Bush, H. W., & Co., Ltd.
 Edwards, W., & Son
 Evans Sons Lescher & Webb, Ltd.
 Hovenden, R., & Sons, Ltd.
 Maw, S., Son & Sons
 May, Roberts & Co., Ltd.
 Newbery, F., & Sons, Ltd.
 Poths, H., & Co.
 Quelch, H. O., & Co.
 Sangers
 Schntze, F., & Co., Ltd.
 Solport Bros.
 Sonthall Bros. & Barclay, Ltd.
 Swales, Thomas
 Toogood, W., Ltd.
 Wattenbach, O.
 Woolley, J., Sons & Co., Ltd.
 Zinser, Alberto

DRUGS, CRUDE

Burkett, Sharp & Co.
 Gathergood's Exor.
 Goodall, Backhouse & Co.
 Potter & Clarke, Ltd.
 Raimes & Co.
 Sobmitt & Wildenhayn
 Zinser, Alberto

EARTHENWARE JARS, &c.

Fulham Pottery and Churn
 Filter Co., Ltd.

EAU DE COLOGNE

Brownley, H., & Co. Ltd.
 Farina, J. M.
 Farina, J. M. (No. 4)
 Fickus, Conrienay & Co.
 McCracken, J. & R.
 Sobutze, F., & Co., Ltd.

EDUCATIONAL INSTITITS.

Bath & West of England College
 Birmingham & Midland College
 Birmingham University
 College of Preceptors
 Elt's College
 Glasgow School of Pharmacy
 Liverpool School of Pharmacy
 London College of Pharmacy
 North of England School
 Northern College of Pharmacy
 Rance, Miss E.
 South of England College
 Westminster College

ELASTIC HOSIERY

Ayrton, Saunders & Co., Ltd.
 Burge, Warren & Ridgley, Ltd.
 Haywood, J. H., Ltd.
 Maw, S., Son & Sons
 Wood, Vincent

EFFERVESCENT PREPS.

Allen & Hanburys, Ltd.
 Ayrton, Saunders & Co., Ltd.
 Bishop, Alfred, Ltd.
 Blyton, Astley & Co.
 Bristol Myers Co.
 British Drug Houses, Ltd., The
 Oupal, Ltd.
 Evans Sons Lescher & Webb, Ltd.
 Guest, Thos., & Co.
 Kerfoot, Thos., & Co.
 Lorimer-Marshall, Ltd.
 Shirley Bros., Ltd.
 Wright, Layman & Umney, Ltd.
 Wyleys, Ltd.

ELECTRICAL NOVELTIES

Evans Sons Lescher & Webb, Ltd.
 Millard Bros., Ltd.
 Simplex Conduits, Ltd.
 Tokalon, Ltd.
 Ward & Goldstone
 Wright, Archd. J., Ltd.

EMERY AND CLOTH

Oakley, J., & Sons, Ltd.

EMETINE SALTS

Carnegie Bros.
 Macfarlan, J. F., & Co.
 Whiffen & Sons, Ltd.

EMULSIFIERS

Bennett, Sons & Sbears, Ltd.
 Boothroyd, H. T., Ltd.
 Wilkinson, S. W., & Co.

EMULSIONS, C.L.O., &c.

Ayrton, Saunders & Co., Ltd.
 Baiss Bros. & Stevenson, Ltd.
 Blackie, Robert
 Boulton Macro, Ltd.
 Faulding, F. H., & Co.
 Parke, Davis & Co.
 Scott & Bowne, Ltd.
 Stevenson, H. E., & Co.
 Wyleys, Ltd.

ENAMELLED HOSPITAL REQUISITES

Orme, Evans & Co., Ltd.

ENDOLYTIC TUBES

Fletcher, Fletcher & Co., Ltd.

END RUNNER MILLS

Hardy Patent Pick Co., Ltd.

ENEMAS

Burge, Warren & Ridgley, Ltd.
 Ingram, J. G., & Son
 Warne, W., & Co., Ltd.

EPSOM SALTS

Howards & Sons, Ltd.
 May & Baker, Ltd.

ESSENCES, SOL. AND FRUIT

Alliance Drug & Chem. Co.
 Barnett & Foster
 Boake Roberts, A., & Co., Ltd.
 Bush, W. J., & Co., Ltd.
 Clayton & Jowett (Inset)
 Hay, Wm., Ltd.
 London Essence Co.
 Sinalco Co.
 Stevenson & Howell, Ltd.

ETHERS

Baiss Bros. & Stevenson, Ltd.
 Duncan, Flockhart & Co.
 Howards & Sons, Ltd.
 Macfarlan, J. F., & Co.
 May & Baker, Ltd.
 Tyrer, T., & Co., Ltd.
 White, A., & Sons

EUCALYPTUS OIL

Allan, A. E.
 British Drug Houses, Ltd., The
 Stevenson, H. E., & Co.
 Tasmanian Eucalyptus Oil Co.

EVAPORATORS

Forshaw, E., & Son, Ltd.

EXTRACT OF HERBS

Newball & Mason

Potter & Clarke, Ltd.

EXTRACTS (MEDICINAL)

Allen, Stafford, & Sons, Ltd.
 Burroughs Wellcome & Co.
 Curling, Geo., Wyman & Co.
 Evans Sons Lescher & Webb, Ltd.
 Gathergood's, Dr. B. W., Exor.
 Hewlett, O. J., & Son, Ltd.
 Parke, Davis & Co.
 Ransom, W., & Son, Ltd.

FACTORY, &c., SITES

Great Western Railway

FILLING BOTTLES

Bush, H. W., & Co., Ltd.
 Schntze, F., & Co., Ltd.

FILLING MACHINES

Forgrove Machinery Co., Ltd.
 Roberts' Pat. Filling Mach. Co.

FILTERS

Berkefeld Filter Co., Ltd.

FLYCATCHERS

Alabastine Co. (British), Ltd.
 Barraclough, J., & Co.
 Christy Strong
 Ford, Shapland & Co.
 Kay Bros., Ltd.
 Pettit, G.
 Smith, Jno. H., & Co.
 Tunbridge & Wright

FOODS, INVALID, &c.

Allen & Hanburys, Ltd.
 Bell (John), Hills & Lucas, Ltd.
 Benger's Food, Ltd.
 Brand & Co., Ltd.
 British Casein Co. (1911), Ltd.
 Fairchild Bros. & Foster
 Fletcher, Fletcher & Co., Ltd.
 Frame Food Co.
 Harker, Stagg & Morgan, Ltd.
 Horlick's Malted Milk Co.
 Lofthouse & Saltmer, Ltd.
 Natural Food Co., Ltd.
 Namol, Ltd.
 Paternmann Bros.
 Plasmon, Ltd.
 Ridge's Royal Food Mills
 Sister Laura's Infant Food Co.
 Southall Bros. & Barclay, Ltd.
 Wander, A., Ltd.
 Willows, Francis B. & T., Ltd.
 Woolley, Jas., Sons & Co., Ltd.

FOOT APPLIANCES

Echoll Mfg. Co., Ltd.

FULLER'S EARTH

Mumford, G. S., & Sons

FUMIGATORS

Sanitas Co., Ltd.

GLYCERIN

Price's Patent Candle Co., Ltd.

GLYCEROPHOSPHATES

Anglo-American Pharm. Co.
 Merck, E.

GREASE REMOVER

Perkin & Co., Ltd.

GRINDERS, DRUG, &c.

Allen, Stafford, & Sons, Ltd.
 Goodall, Backhouse & Co.
 Willows, Francis B. & T., Ltd.

GRINDING MACHINERY

Hardy Pat. Pick Co., Ltd.

GRIPE WATER

Woodward, W., Ltd.

GUMS

Pink, F., & Co.
 Kidston, W. M., & Co.

HAIR DYES

Harker, C. R., Stagg & Morgan.
 Knox, Walker, J., & Co., Ltd.

HAIR PREPARATIONS

Alexandre, L.
 Blackie, Robert
 Edwards' "Harlene" Co.
 Harrison, G. W.
 Knoll & Co., Ltd.
 Lindner, M.
 Nu-tro Co.
 Osborne, Garrett & Co.
 Robare's Aureoline
 Sangers
 Tokalon, Ltd.

HAND CARTS, TRUCKS, &c.

Crewe & Co.

HAT CLEANERS

Christy, Thos., & Co.
 Milner's Chemical Co.
 Senior, Alfred, & Co.

HAT DYES

Whitaker & Cr.

HERBS

Potter & Clarke, Ltd.

HOMOEOPATHIC MEDICINES

Ashton & Parsons, Ltd.
 Keene & Ashwell, Ltd.
 Leath & Ross

HORSE REMEDIES

Harvey & Co. (Dublin), Ltd.

HOT-AIR DOUCHES

Ward & Goldstone

HOTELS

Kingsley Hotel
 Thackeray Hotel

HOT-WATER BOTTLES

Burge, Warren & Ridgley, Ltd.
 Fulham Pottery & Oheavin
 Filter Co., Ltd.
 Galen Manfg. Co., Ltd.
 Schutze, F., & Co., Ltd.
 Toogood, William, Ltd.
 Wood, Vincent

HYDROGEN PEROXIDE

May & Baker, Ltd.
 Sanitas Co., Ltd.
 Tyrer, T., & Co., Ltd.

HYPNOTICS

Knoll & Co., Ltd.
 Widenmann, Broicher & Co., Ltd.

HYPHOPHOSPHITES

May & Baker, Ltd.
 Morson, T., & Son
 Tyrer, T., & Co., Ltd.

ICHTHYOL

Ichthyol Gesellschaft

INK, DICHROIC

Bewley & Draper, Ltd.

INK POWDER

Webster, T. & Co.

INSECT-BITE PREVENTIVES

Gibbs, D. & W., Ltd.

INSECTICIDES

Christy, T., & Co.
 Cook, E., & Co., Ltd.

INSECT POWDER

Danzysz Virus, Ltd.
 Keating, Thomas
 Potter & Clarke, Ltd.
 Raimes & Co.
 Shaw, Godfrey

INSURANCE

London & Midland Insurance Co., Ltd.

IODIDES

Morson, T., & Son

JUNKET PREPARATIONS

Cox, Arthur H., & Co., Ltd.

LANOLINE

Burroughs Wellcome & Co.

LARD

Ewen, J., & Sons

LAVERANDER OIL

Jakson, John, & Co.
 Ransom, W., & Son, Ltd.

LAVERANDER WATER

Bush, W. J., & Co., Ltd.
 Vinolia Co., Ltd.

LECITHIN

Chem. Works "Victoria"

LEMONADE POWDER

Greenwich Lemonade Co.

LIME JUICE AND CORDIAL

Evans Sons Lescher & Webb, Ltd.
 Goodall, Backhouse & Co.
 Idris & Co., Ltd.

LINSEED, CRUSHED, &c.

Mumford, G. S., & Sons

LINTS

Liverpool Lint Co.
 Maw, S., Son & Sons
 Robinson & Sons, Ltd.
 Vernon & Co., Ltd.

LIQUORICE JUICE

Apollo
 Burgoyne, Burbridges & Co.
 Drogueries & Huilleries Anver-soises, Ltd.
 Evans Sons Lescher & Webb, Ltd.
 Jackson, Ernest, & Co.
 Mumford, G. S., & Sons
 Solazzi

LITHIA SALTS

British Drug Houses, Ltd., The
 Howards & Sons, Ltd.
 Maofarian, J. F., & Co.
 May & Baker, Ltd.

LOOFAHS

Hall Forster & Co., Ltd.
 Internal. Sponge Importers, Ltd.
 Solport Bros.
 Swales, Thomas

LOZENGES

Blyton, Astley & Co.
 Cartwright, W. B., Ltd.
 Denoual, Jules, & Co.
 Guest, Thos., & Co.
 Jackson, Ernest, & Co.
 Potter & Clarke, Ltd.
 Raimes & Co.
 Warrick Bros., Ltd.

MACHINERY, PHARMACAL

Allen & Hanburys, Ltd.
 Bennett, Sons & Shears, Ltd.
 Forgrove Machinery Co., Ltd.
 Forshaw, E., & Son, Ltd.
 Gardner, Wm., & Sons, Ltd.
 Griffin, John J., & Sons, Ltd.
 Hardy Patent Pick Co., Ltd.
 Pindar, J. W., & Co.
 Stokes, F. J., Machine Co.
 Thompson & Capper, Ltd.
 Wilkinson, S. W., & Co.

MAGNESIA AND PREPS.

Allen & Hanburys, Ltd.
 Ayrton, Saunders & Co., Ltd.
 Cox, Arthur H., & Co., Ltd.
 Henry, T. & W.
 Howards & Sons, Ltd.
 Phillips, Chas. H., Chem. Co.
 Tokalon, Ltd.
 Washington Chemical Co., Ltd.
 Wigglesworth & Co.

MALT EXTRACT & PREPS.

Allen & Hanburys, Ltd.
 Blackie, Ltd.
 Boulton Macro, Ltd.
 British Drug Houses, Ltd., The
 Burroughs Wellcome & Co.
 Calder, James, & Co., Ltd.
 Corbyn, Stacey & Co., Ltd.
 Curling, Geo., Wyman & Co.
 Davies, Sons & Co.
 Evans Sons Lescher & Webb, Ltd.
 Fletcher, Fletcher & Co., Ltd.
 Paine & Co., Ltd.
 Paeall, James, Ltd.
 Paternmann Bros.
 Saechmar Corporation, Ltd.

MARSHING INK

John Bond ("Crystal Palace")

MEASURES, GRADUATED

Bush, H. W., & Co., Ltd.

MEAT EXTRACTS

Armour & Co., Ltd.
 Brand & Co., Ltd.
 Tooth's Extract of Meat Co.

MEDICAL COILS

Ward & Goldstone

MENTHOL

Carnegie Bros.

MERCURIALS

Alliance Drug and Chem. Co.
 Howards & Sons, Ltd.
 May & Baker, Ltd.
 Tyrer, T., & Co., Ltd.
 Whiffen & Sons, Ltd.

METAL CLIPS

Griffin, John J., & Sons, Ltd.

METHYLATED SPIRIT

Burrough, J., Ltd.
 Preston's Liverpool Distillery
 Co., Ltd.

Randall & Son, Ltd.

Riddell & Smith

Thornley, Samuel, Ltd.

MILK, CONCENTRATED

Nestlé's

MILK SUGAR

Hollandse Melksuikerfabriek

MINERAL WATERS, SALTS

Apolinaris Co., Ltd.

Ingram & Royle, Ltd.

Vichy-Celestine

MIXERS AND SIFTERS

Gardner, Wm., & Sons (Gloucester), Ltd.
 Consolidated Pneumatic Tool
 Co., Ltd.

Tilling, Thomas, Ltd.

MUSTARD PLASTER

Blyton, Astley & Co.

Rueff, Julius

MUSTARD SEED OIL

Johnson, J. H. & S.

NAIL POLISH PAPER, &c.

Pharm. Ind. Ges. Offenbach

NAPHTHALENE

Burt, Boulton & Haywood, Ltd.

NICOTINE

Campbell, J. D.

NIGHT LIGHTS

Price's Patent Candle Co., Ltd.

OILS, ESSENTIAL

Allen, Stafford, & Sons, Ltd.
 Alliance Drug & Chemical Co.
 Boake Roberts, A., & Co., Ltd.
 Bonaventura, F., & Co.
 Bush, W. J., & Co., Ltd.
 Dodge & Olcott Co.
 Evans Sons Lescher & Webb, Ltd.
 Heine & Co. (Inset)
 Jackson, John, & Co.
 London Essence Co.
 Lueders, George, & Co.
 Poppelreuter, W.
 Ransom, W., & Son, Ltd.
 Schimmel & Co.
 Stevenson & Howell, Ltd.
 Wright, Layman & Umney, Ltd.

OILS, MINERALS, FATTY, &c.

Allen, Stafford, & Sons, Ltd.
 Price's Patent Candle Co., Ltd.
 Stern Sonneborn Oil Co., Ltd.

ointments

Blackie, Robert
 Burgess, E.
 Mentholatum Co.
 Oldfield, Pattinson & Co.

OPTICAL GOODS

Darton, F., & Co.
 Nitsche & Gunther Opt. Co., Ltd.
 Raphael's, Ltd.
 Standard Optical Co.

OPTICAL TUITION

British Optical Institute, Ltd.
 College of Optics
 Spectacle Makers Company

ORANGE & QUININE WINE

Idris & Co., Ltd.
 Miller, A., & Co., Ltd.
 Robinson, B., & Co., Ltd.

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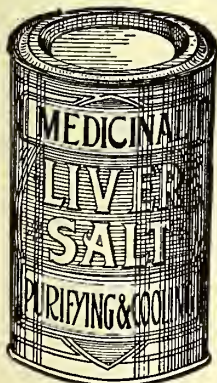
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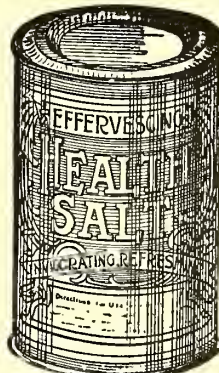
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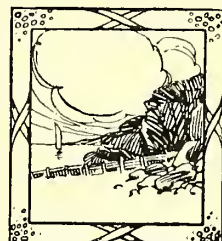

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GOGGLES. A111/U.
Cyclists, solid nickel,
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globular lenses, each in
case, per dozen, 12/-.

A125/U. Motorists',
Long D-shape glasses,
edged silk velvet, with
spring bridge. Per doz.
26/-.

THE WEEK-END SHAVING SET

This is a really splendid line for your
men customers, and makes the ideal
holiday companion. The Outfit comprises
a No. 1 "Invincible" Razor, one tin of Maw's
Soap Powder, and one Shaving Brush in roll-
up pouch. One of the best selling lines we
handle. Price 2/6 each, complete.



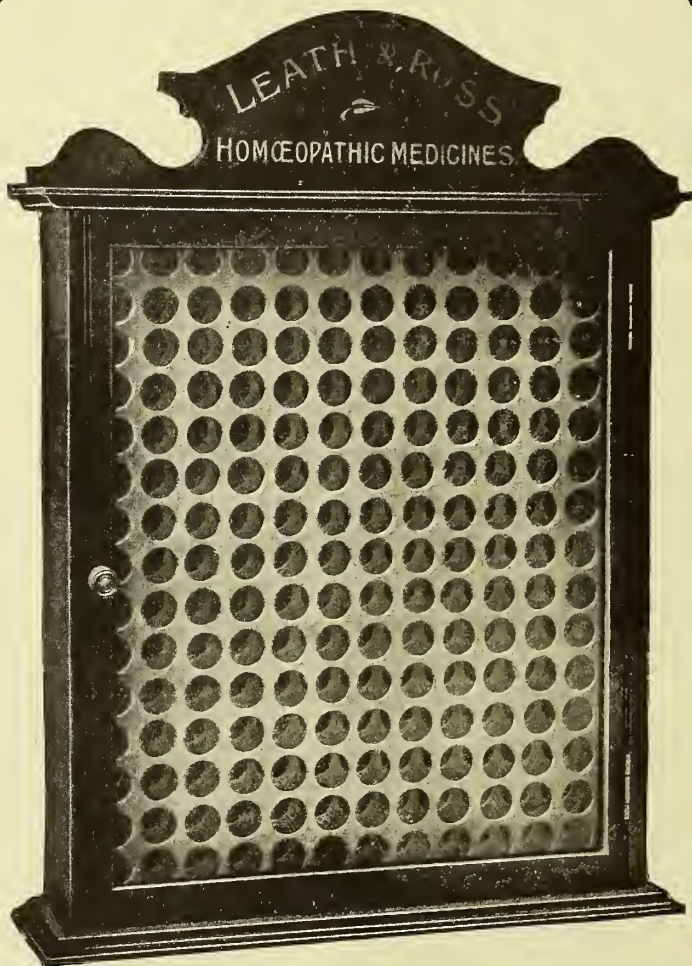
This handsome
Mahogany Show-
case of superior make is

ABSOLUTELY FREE

with an order for 2 gross of 1/- Medicines,
Tinctures or Piules, assorted as you please, at
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It occupies less
space of other Homoeo-
pathic Showcases, though it
gives a much better frontal display.

FREE CASE



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DIMENSIONS:
26 inches high.
19 " wide.
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LEATH & ROSS,
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The Grand Double Flask

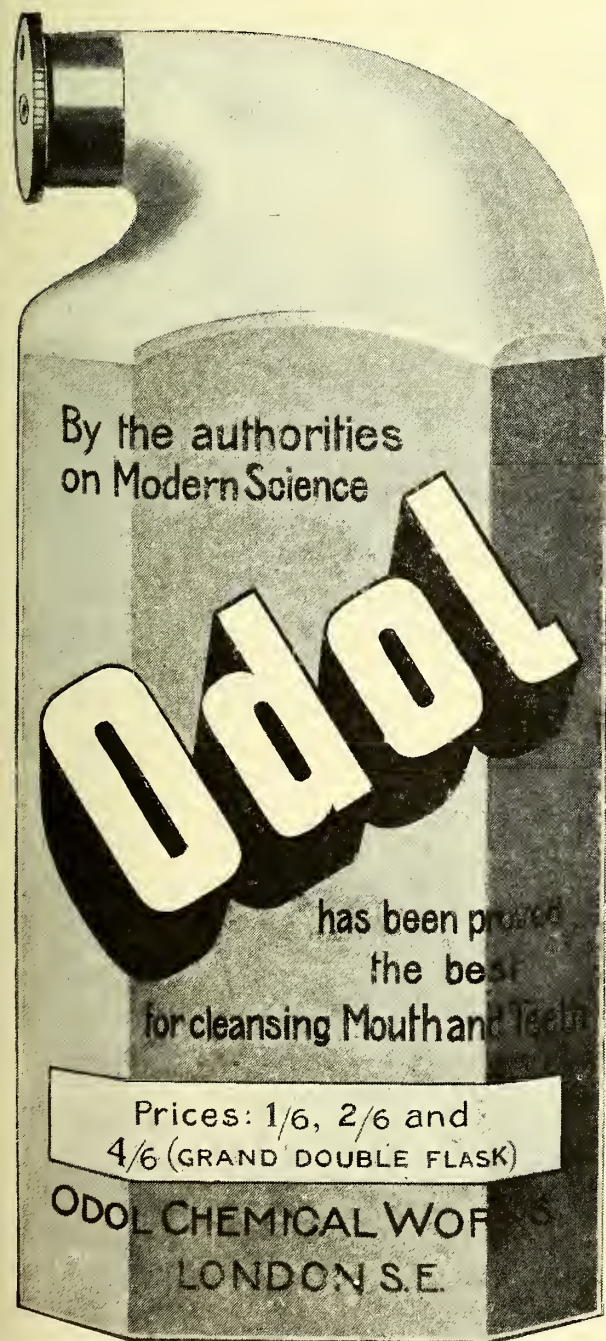
of Odol is so frequently inquired for at the Works that we are sure it would be to the advantage of the Chemist if he took care to keep this size always in stock.

The larger profit shown
should be an incentive to
be always ready with a
supply, and even to give
extra prominence to this
special size.

The Grand Double Flask commands a ready sale, being handier and more economical for family use, also for Navy and Army men and others going abroad, and the travelling public generally.

Price List and all particulars
on application.

ODOL CHEMICAL WORKS,
London and Paris.



BAYER'S PHARMACEUTICAL PRODUCTS.

Name <i>Reg. Trade Mark</i>	Description	Dose or Strength	How Obtainable <i>(In Original Packages only)</i>	Name <i>Reg. Trade Mark</i>
'Acitrin'	Gout specific	1 tablet four to six times a day	$\frac{1}{2}$ grm. ($7\frac{1}{2}$ gr.) tablets, in original tubes of 20 ...	'Acitrin'
'Adalin'	Sedative and hypnotic	As sedative 5-10 grs. Ashypnotic 10-15 grs.	$\frac{1}{2}$ and 1 oz. boxes. 5 grain tablets, in bottles of 25 and 100. $7\frac{1}{2}$ gr. ($\frac{1}{2}$ grm.) tablets in tubes of 10	'Adalin'
'Afridol Soap' ...	Germicidal soap ...	As sublimate soap	Original tablets, retailed at 1/6 each	'Afridol Soap'
'Alypin'	Local anæsthetic ...	$\frac{1}{2}$ -2% (hypodermic)	Tubes of 16 grs., $\frac{1}{4}$ and 1 oz. bottles.	'Alypin'
		10-20% (muc. membrane)	'Alypinoids' ($\frac{1}{2}$ gr. tablets) "A" and "D" (with suprarenin), in tubes of 10	
'Aristol'	Odourless antiseptic	5-50 per cent. ...	$\frac{1}{2}$ and 1 oz. bottles	'Aristol'
'Aspirin'	Anti-rheumatic and analgesic	10-15 grs., t.i.d. ...	1 oz. boxes. Tablets:—25×5 gr., 100×5 gr., tubes of 20× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme).	'Aspirin'
'Aspirin Co. Tabs.'	With caffeine, phenacetine or quinine	1-2 tablets	In original tubes of 20	'Aspirin Co. Tabs.'
'Aspirin-Soluble'	Anti-neuralgic and anti-rheumatic	10-15 grs.	1 oz. boxes	'Aspirin-Soluble'
'Citarin'	Anti-arthritis	16-32 grs., t.i.d. ...	1 oz. bots. 32 gr. (2 grammes) tablets in tubes of 10	'Citarin'
'Coryfin'	Prolonged 'menthol' action	2-5 drops	1 oz. bots. Special bottles (1/-) in metal cases, 'Coryfin' Pastilles, original boxes (1/3).	'Coryfin'
'Cycloform'	Antiseptic and anæsthetic	$\frac{1}{2}$ -10 per cent. ...	In 1 oz. boxes. Ung. 'Cycloform' Co. original tube (1/9)	'Cycloform'
'Cymarin'	Cardiac tonic and diuretic	Internal: 1 tab. ('3 mg.) 2-5 times daily, p.c.	Ampullæ (1 cc. sol.) in boxes of 10. Tablets ('3 mg.) in original bottles of 50 (2/6)	'Cymarin'
'Elarson'	Organic arsenic compound	1-2 tabs. 3-5 times a day	Tablets (= $\frac{1}{2}$ mg. As.) in original bottles of 60 ...	'Elarson'
'Ferro-Sajodin' ...	Tonic and alterative	$7\frac{1}{2}$ -15 grs. thrice daily	$7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme) tablets in tubes of 20	'Ferro-Sajodin'
'Guycose'	Medicated food tonic	1-2 teasp. t.i.d. ...	Original bottles, dispensed at 2/9 each (contents sterilised)	'Guycose'
'Helmitol'	Urinary antiseptic ...	10-15 grs., t.i.d. ...	1 oz. bottles. 25 & 100 × 5 gr. tablets	'Helmitol'
'Helmitol Co. Tabs.'	Reinforced urinary antiseptic	2-3 tabs. 3-4 times daily	$7\frac{1}{2}$ gr. tabs. in original tubes of 20	'Helmitol Co. Tabs.'
'Heroin Hydchl. [Hcl.]'	Improved morphia product [&c.]	1/240-1/8 gr.	Tubes of 16 grs. $\frac{1}{8}$ and $\frac{1}{4}$ oz. bottles. 25×1/24 gr. tablets	'Heroin Hydchl. [Hcl.]'
'Hydrastinine' ...	Hæmstatic (uterine),	2/5 gr. tablet	Silver-coated tabs. (2/5 gr.), in tubes of 15 ...	'Hydrastinine'
'Iodothyrene' ...	Standardised thyroid principle	$\frac{1}{2}$ -10 grs., t.i.d. ...	$\frac{1}{4}$ and 1 oz. bottles. 20×3 gr. (0.2 gramme) tablets	'Iodothyrene'
'Irocoose'	Non-constipating iron food	1-2 teasp. t.i.d. ...	Original bottles, dispensed at 2/9 each (contents sterilised)	'Irocoose'
'Iron Somatose' ...	Iron food-tonic	$\frac{1}{2}$ -1 teasp. t.i.d. ...	Tins of 1 oz., 2 oz., and 4 oz.	'Iron Somatose'
'Istin'	Purgative	1-2 tab. before bedtime	5-gr. tablets in original tubes of 30 (1/6)	'Istin'
'Jothion'	External iodine preparation	5-10-25 per cent. ...	1 oz. bot.; Ung. 'Jothion' (Bayer) original tube (1/4)	'Jothion'
'Luminal'	Hypnotic	$1\frac{1}{2}$ -5 grs. (max. 12 gr.)	$\frac{1}{2}$ oz. boxes, 10× $1\frac{1}{2}$ gr. and 10×5 gr. tabs. ...	'Luminal'
'Luminal-Sodium'	Hypodermic hypnotic	2-3 cc. of 20% sol. ...	$\frac{1}{2}$ oz. bottles	'Luminal-Sodium'
'Mesotan'	External anti-rheumatic	25-50 per cent. ...	1 oz. bottles	'Mesotan'
'Novaspirin'	Anti-rheumatic and analgesic	10-15 grs., t.i.d. ...	1 oz. bottles. Tubes of 20× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme) tablets	'Novaspirin'
'Phosphocose' ...	Nerve food-tonic ...	1-2 teasp. t.i.d. ...	Original bottles (2/9); (contents sterilised) ...	'Phosphocose'
'Polylactol'	Galaetagogue & tonic	1 teasp. 2-4 times daily	Original bottles (2/9 each)	'Polylactol'
'Protargol'	Organic silver compound (8.3% Ag.)	$\frac{1}{4}$ -20 p.c.	$\frac{1}{2}$ and 1 oz. bottles, 25×4 gr. tablets	'Protargol'
'Sajodin'	Organic iodide	$7\frac{1}{2}$ -15 grs., t.i.d. ...	$\frac{1}{2}$ and 1 oz. bottles. Tubes of 20× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme) tablets	'Sajodin'
'Salophen'	Analgesic and anti-rheumatic	10-15 grs., t.i.d. ...	1 oz. bottles. 20× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme) tablets ...	'Salophen'
'Somatose'	Meat albumose food-tonic	$\frac{1}{2}$ -1 teaspoon., t.i.d.	Tins of 1 oz., 2 oz., 4 oz., and 8 oz., Liquid 'Somatose' , original bottles (2/6 each) (contents sterilised)	'Somatose'
'Spirosal'	External anti-rheumatic	$\frac{1}{2}$ -teasp. applied, t.i.d.	1 oz. bottles. ' Spirosalin ' (Spirosal 1 pt. S.V.R. 2 pts.)	'Spirosal'
'Tannigen'	Intestinal astringent	5-15 grs., q.o.s. ...	1 oz. bottles. Tubes of 10× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ gramme) tablets	'Tannigen'
'Theocin-Sod. Acet.'	Powerful diuretic ... [preparation]	$1\frac{1}{2}$ -4 grs., t.i.d., p.c.	$\frac{1}{2}$ and 1 oz. bottles. Tubes of 20× $1\frac{1}{2}$ gr., and bottles of 25×4 gr. tablets (' Theocinoids ')	'Theocin-Sod. Acet.'
'Thyresol'	Improved sandalwood	5-10 min., t.i.d. ...	Capsules (5 min.) in boxes of 30 (3/-)	'Thyresol'
'Veronal' (Bayer, Merck)	Hypnotic	} 5-15 grs.	{ 1 oz. boxes, 10× $7\frac{1}{2}$ gr. ($\frac{1}{2}$ -grm.) 25 and {	'Veronal'
'Veronal-Sodium'	Soluble hypnotic ...			'Veronal-Sodium'

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OFFICE: 42 CANNON STREET, E.C.

SATURDAY, JULY 25, 1914.

Telephone Number: Bank 852 (two lines). Telegraphic Address: "Chemicus, Cannon, London" (charged as two words).

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H LONDON.—Distant suburb; Light Retail with about 2,000 Panel scripts; returns £700 to £800; net profit only £30; nice little house; price £450; strictest selection offered. "Serum" (189/41), Office of this Paper.

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C CASH Business for Sale in suburb of a city situated in the Midlands; returns £1,200 at good profits; rent £40; good living accommodation; price £650, or valuation; cash buyers only. Apply "Pharmacy" (185/19), Office of this Paper.

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D RUG Stores for Sale at cost of stock and fittings, about £100; well-fitted shop, 5 rooms, bath (h. and c.), side entrance, etc.; rent £45; taking £8 per week; genuine reason for sale; much neglected; splendid chance for worker joining Panel. Lewis & Co., Estate Agents, 107 High Road, Willesden Green.

DUN'S DRUG STORES, LTD., 483 Argyle Street, Glasgow.—For Sale, this old-established Business, which in the hands of a live capable person can be greatly increased; this is a splendid opportunity for a young pushing man; a large Panel Dispensing trade is being done, which can be increased to a very large extent; proprietor retiring from the business. Particulars from John Wishart, Sec., 138 Bath Street, Glasgow.

E EIGHTY-FIVE pounds will buy small Business near Birmingham; has been neglected and can easily be doubled; stock taken at cost; worth £60; fixtures are worth £40; about 40 scripts weekly; rent 8s. 6d. a week; clear comfortable house; small garden. 185/22, Office of this Paper.

F OR immediate Disposal, good-class Retail, Dispensing Business in high-class Western suburb; rent only £36; turnover nearly £100 monthly, increasing; splendid scope; ideal for gentlemanly bachelor who could reside thereon; will accept £400 cash and small balance by arrangement. 186/17, Office of this Paper.

F ORTY miles South London.—Comfortable unopposed sound old-established concern, well stocked; easily worked at ridiculously low rental; nice house and garden; lovely healthy country; owner retiring; to anyone wishing quiet life and sure £150 per annum this is a rare opportunity; reasonable price. 187/7, Office of this Paper.

LIGHT Retail; same hands many years; returns 1912 £801, 1913 £847 15s.; this year increasing practically every month; last two months over £2 weekly; profits largely above the average; young man can increase returns at once, £3 weekly minimum; proof given; vendor will retain small interest in the business if wished; London; price £450 cash. 184/28, Office of this Paper.

OLD-ESTABLISHED good-class Dispensing Business in fashionable residential part of West of England City; no N.H.I. work and practically no penny or Patent trade; present returns £642; net profit over £260; Pharmacy beautifully fitted and well stocked; owner retiring; price required £650; fullest particulars to applicants supplying references. Apply, 164/14, Office of this Paper.

OPTICAL and Photographic, with Toilet Requisites, Business for Disposal in one of best suburbs of Midland city; newly smartly fitted; doing £6 10s. weekly; opened less than twelve months; illness cause sale; price £250; rent £35; not yet had a chance; under female management; an opportunity for qualified Optician. 185/200, Office of this Paper.

TO Chemists, etc. — For Sale by private treaty as a going concern, Business comprising 3 shops in Manchester districts; will be sold together or separately; shops well fitted and stocked and in excellent neighbourhoods. For further particulars apply Messrs. H. L. Price & Co. Incorporated Accountants, 15 Fountain Street, Manchester.

SMA LL old-established Country Business in Lancashire manufacturing district. Apply 187/37, Office of this Paper.

SMA LL but very profitable Business for Sale in Eastern County; unopposed; easily worked; net profit over £150; pleasant district; suit beginner; price, valuation (about £150). 186/31, Office of this Paper.

SMA LL, but compact, well fitted and stocked Drug Stores in marketing thoroughfare, working-class district of popular suburb, S.W.; now taking £10 weekly under inefficient and unqualified manager; in good hands would quickly double; good opening for cheap Prescribing, Teeth Extracting, N.H.I. Dispensing, and Photographic; seven-roomed house, side entrance; low expenses; profits good; every investigation and trial allowed; £150 all at. Apply 188/36, Office of this Paper.

£75.—Well-stocked Drug Stores, in busy Lancashire town, for immediate Sale; working-class population; takings average £8 week; comfortable eight-roomed house; rent £30 clear; Patents exceptionally low; big scope for N.H.I.; owner taking over larger concern; inquiries invited; only wants seeing. Apply, "Statin" (187/35), Office of this Paper.

FOR SALE.

CHEMISTS.—Counter, Shelves, Drawers, and Show-cases complete, in solid mahogany; value at £70 for probate; for immediate Disposal; no reasonable offer refused. Apply, 69 Oxford Street, Southampton.

FOR Sale, an excellent Remedy for Gout, Rheumatism, kindred diseases, a Medicine and Embrocation, having been supplied locally in Bournemouth for four years with great success and numerous testimonials from all classes; fully protected with trademark; would sell the whole or part; a great success. 16 Hankwood Road, Boscombe.

LA T E S T style National Cash Till for Sale; second-hand; must sell; splendid order. Particulars, write Hopkins, 2 Hillmore Grove, Sydenham, S.E.

BUSINESSES WANTED.

RE T A I L or small Wholesale Business required, City of London. Full particulars, "Aspirin," 255 Wimbledon Park Road, Wimbledon Park, S.W.

WA N T E D, small Business, with living accommodation, where trade is to be done and N.H.I. Dispensing; London or suburbs; £50 down, balance later. "Photo" (186/35), Office of this Paper.

PARTNERSHIPS.

E S T A B L I S H E D Traveller, with capital, wanted to join another with good connection to develop manufacturing business having large possibilities; strictest confidence observed. 41/57, Office of this Paper.

AGENCIES.

Price-lists, trade circulars, samples, and printed matter can no case be forwarded, the Box number being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

BE L G I U M.—Advertiser, very efficient, with Chemical-Pharmaceutical training, good appearance, excellent references, connected with Wholesalers, seeks the Representation of first-class Manufacturers of Chemicals, Specialities, Drugs, etc. Write 56/32, Office of this Paper.

S O U T H A F R I C A.—Gentleman, returning for 4 to 5 months journey at end of year, is open to interview first-rate men requiring their Proprietaries, etc., introduced (Drugs, Patents, Goods, Tablets and Pills, and Sundries); every important business throughout the Union personally known for the past 18 years; first-class references, English and Colonial. Reply, in confidence to 173/33, Office of this Paper.

A B U S I N E S S man, with City address, is desirous of securing an Agency for a Foreign Manufacturer not represented in London; well known in the Drug, Druggists' Sundries, and Perfumery trades; highest references. 189/16, Office of this Paper.

MA N U F A C T U R E R S or Importers of Toilet Requisites and Perfumery wanting a reliable Agent in Lancashire andeshire on a commission basis are invited to correspond with advertiser. Apply, 183/27, Office of this Paper.

TO LET.

BL A C K P O O L.—For Disposal residue of Lease (21 years) of Shops comprising corner block in Church Street; the premises are modern, two storeys high, and contain good basements suitable for showrooms; premier position in the town. Address "X," c/o E. Coppock, Stationer, Blackpool.

C H E M I S T needed in neighbourhood; good opening for business; man; large double-fronted shop, next door to Post Office; main road; eight-roomed house adjoining, also large workshop, gas, main water, etc.; low rent for beginner; immediate occupation. Apply, Stephens, Avondale, Heathfield, Sussex.

TO Let, Shop, No. 35 Baker Street, Aberdeen; the Cheapest Supplies of the late Dr. Reith at valuation. For particulars apply to Peterkin & Duncans, 21 Golden Square, Aberdeen.

SITUATIONS OPEN.

3s. 6d. for 50 words or less; 6d. for every 10 words or less beyond, prepaid.

The Advertiser may, if preferred, have advertisements addressed to this Office, and forwarded on payment, at an additional charge of 6d.

RETAIL.

Price-lists, trade circulars, samples, and printed matter can no case be forwarded, the Box number being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

BA R N S L E Y.—Juniors wanted, temporary and permanent; Light Retail, Dispensing, and Photographic business; 8 hours; half-day weekly; no Sunday duty. Write, stating qualifications, age, and height, with references and salary requirements, to A. L. Johnson, Ltd., Chemists, Church Street, Barnsley.

BA R N S T A P L E.—Wanted, competent Assistant; qualified; preferred; one kept; outdoors; hours 8 a.m. to 8 p.m., but days 9.30 p.m.; no Sunday or Bank Holiday duty. Send particulars and send photo (to be returned) to E. W. Primrose, 1 High Street, Barnstaple.

BA T H.—Wanted, gentlemanly Assistant, experienced, uncles; must be neat and accurate Dispenser and good Salesman; high-class Store; short hours; weekly half-holiday; no unusual duties. Apply, with full particulars, references, salary, etc., to Cater, Stoffell & Fortt, Ltd., Bath.

BI R M I N G H A M.—Wanted, a competent Junior Assistant; 21; good experience necessary, including Photographic; salary required, Rushdon, Chemist, 531 Stratford Road, Birmingham.

BI R M I N G H A M.—Unqualified Assistant required for first time for study can be arranged if desired. Apply, with full particulars, to B. H. Powell, Chemist and Optician, 35 Dudley Road, Birmingham.

BIRMINGHAM.—Qualified Branch Manager desiring permanency; Counter experience essential; N.H.I. and general class business. Apply 186/20, Office of this Paper.

ISH HILL PARK.—Qualified Managing Assistant required immediately; indoors; very comfortable home; reasonable; no Sunday, Bank Holiday, or other duty. Please state experience and salary required, J. E. Hyde, Pharmacist, Bush Park, Enfield.

ANTERBURY.—Junior Assistant; outdoors; accustomed to good-class provincial business. Apply, with full particulars, enclose photo, to E. Bing & Son, Pharmaceutical Chemists, Terbury.

ARDIFF.—Unqualified Assistant wanted to commence on August 17; must be a quick and industrious worker and need not requiring much supervision; no Sunday work; close nesdays at 1, Saturdays 10.30, other evenings at 8.30; age at 26; 35s. week (outdoors). 181/34, Office of this Paper.

ESTER.—Wanted at once, qualified man; salary £120. Finemore, Chemist, Chester.

VENTRY.—Wanted, a good reliable Assistant for General work and Dispensing; comfortable place for one desiring a permanency. State age, height, and salary, with photo and full particulars, Welton, Chemist, Bishop Street, Coventry.

OVER.—Alexander Bottle & Co. require an Assistant accustomed to a good-class Dispensing and Retail business; one ing a permanency preferred. Please give full particulars of experience and state salary required (outdoors) to Mr. Ewell, Townwall Street, Dover.

AST HAM.—Wanted at once, qualified Assistant; Extractor preferred but not essential. State age and salary required doors), Wardale & Co., 132 High Street North.

SHER.—Outdoor Assistant required for good-class Dispensing business in Surrey; little Insurance work. Apply, with photo, Chapman, Chemist, Esher.

LOUCESTER.—Wanted, a good, reliable Assistant (22-24) for General work and Dispensing; comfortable place for one ing a permanency; outdoors. State age, height, and salary, photo and full particulars, Broad, Chemist, Gloucester.

RANTHAM.—Wanted, a competent Assistant; one accustomed to a Country business and desiring a permanency preferred; doors; easy hours. Apply, with full particulars, W. D. Cox, Watergate, Granttham.

RIMSBY.—At once, Qualified Manager; able to take sole charge; Prescriber, N.H.I. Dispensing; no Sunday duty, rsday 1 p.m. Apply, stating salary required, references, and l particulars, to F. W. Heely, West Street, Alford, Lincs.

ALIFAX.—Required, smart Assistant; must be good Counter-man and Window-dresser; one accustomed to Store business having some knowledge of Photographic preferred; outdoors; duty. Apply, stating age, height, experience, and salary tired, to Taylors (Northern). Ltd., 4 Crown Street.

ENT.—Wanted immediately, Doctor's Dispenser; salary 30s.; outdoors; usual duties. Apply 187/31, Office of this Paper.

NGSTON-ON-THAMES.—Unqualified Assistant (permanency, outdoors) wanted for about the middle of August; good-class oess; very reasonable hours; time for study if required. nley, Chemist, 51 Fife Road, Kingston-on-Thames.

NCS.—Qualified, young, for Branch. Full particulars, first letter, "X. Y. Z." (185/27), Office of this Paper.

NCASHIRE.—Smart unqualified Junior required for an up-to-date business; must bear an exceptional character and have good Counter and Dispensing experience. State age, when erty, and salary required, "Junior" (183/71), Office of this r.

ISTON, Suffolk.—Junior or Improver wanted at once; Light Retail, Dispensing, and Photographic business. Full parars, age, references, and salary required in first letter. y Gray, Chemist, Saxmundham, Suffolk.

VERPOOL.—Smart qualified man for Branch; good prospects for right man. "Sebn," 291 Park Road, Liverpool.

NDON.—Unqualified Assistant (outdoors), chiefly for stock; must be good worker, neat and punctual; half-holiday; two s daily for meals. 184/25, Office of this Paper.

NDON.—Wanted, competent Assistant; indoors; good experience; reliable Dispenser and good Counterman. State height, experience, and salary required, with photo (to be rned). Apply "Stugan" (186/21), Office of this Paper.

LONDON.—High-class Store Chemist, N.W. district, requires good reliable Junior Assistant, age about 21; comfortable permanency to the right applicant. "Golder" (183/711), Office of this Paper.

LONDON, E.—Qualified Assistant wanted by Chemist taking up medical studies in October; good opening for suitable man and opportunity of acquiring business in a few years; preferably one willing to invest small capital in business as evidence of bona-fides; and until satisfactorily suited as above Junior wanted (at once). Full particulars to 188/19, Office of this Paper.

LONDON, N.—Immediately, smart Junior Assistant; first-class Dispensing experience; Photography; references must bear strict investigation; hours moderate; outdoors. E. A. Atkins, 30 Highbury Park, N.

LONDON, N.—Commencing September, qualified man to take sole charge; Junior kept; reasonable hours; good wages and comfortable berth for an active, reliable man desiring a permanency and willing to work; character must bear strictest investigation. Apply fully to Hugo Wolff, 180 Philip Lane, Tottenham.

LONDON, N.—Wanted at once, outdoor Junior Assistant for month; whole time or evenings only. Please write, stating salary required and reference, or call, Young & Co., Chemists (near G.N.R. Station), New Barnet.

LONDON, N.—Qualified Assistant (outdoors) required at once; age about 40. Apply, with references, salary required, and all particulars, to E. A. Brown, 40 Essex Road, Islington, London, N.

LONDON, N.—Qualified Branch Manager (Junior kept); one recently qualified would suit. Apply, stating age, height, experience, and salary required (outdoors), to W. Burgess Dow, Pharmacist and Optician, 518 Hornsey Road, N.

LONDON, N.—Unqualified Assistant as Junior, age about 25, outdoors, for Light Counter trade and N.H.I. Dispensing; must have had good experience; reliable and trustworthy. Usual particulars, salary required, Davies & Co., Chemists, 344 Cale-donian Road, N.

RESULTS
OF ADVERTISING IN THIS SUPPLEMENT
LAST WEEK JULY 18 1914

NATURE OF ADVT.	REPLIES
SIT. WANTED	QUAL. 19
DRUG STORE MANAGER	16
SIT. WANTED	UNQUAL. 16
SIT. WANTED	QUAL. 14
ASSIST!	TEMPORARY 12
BUSINESS WANTED	11

This Blackboard demonstrates that Advertisers using these columns get a ready response to their announcements. The figures only refer to some of the letters RECEIVED AT OUR OFFICE on behalf of Advertisers who use a number or nom de plume.

TO SAVE TROUBLE.

MANY correspondents answering advertisements in this Supplement enclose remittances to cover the cost of forwarding their letters to advertisers who prefer to be addressed o/o this Office. The Publisher desires to make it clear that this is quite superfluous, and perhaps this reminder will obviate the necessity of the frequent return by him of such remittances.

ANSWER IN TERMS OF THE ADVERTISEMENT AND

REMEMBER you are one of possibly hundreds applying for the same position. Put your case before the advertiser so that he may be able to form a MENTAL PICTURE of your suitability.

BE BRIEF BUT CLEAR.—Millions of applications are consigned to the waste-paper basket UNCONSIDERED, because the reader cannot form this picture from the inadequacy of the materials set before him.

LONDON, N.—Wanted, for September 7, a reliable Assistant (outdoors) for quick Cash business; liberal salary; business hours 9 to 10; Saturdays 11; close at 1 on Wednesdays; duty every other Sunday evening only from 6 to 9.30; one hour off for dinner, one hour off for tea. References, age, and salary required to J. Pirie, Chemist, 4 Grand Parade, Haringay.

LONDON, N.W.—Qualified Assistant, either in or out doors; good Counterman and Window-dresser; hours reasonable; not many Insurance Prescriptions. Charles W. Brumwell, Pharmaceutical Chemist, 72 Euston Square, N.W.

LONDON, S.E.—Wanted, qualified Junior Assistant in Light Retail and Dispensing business; state age, experience, and salary required (indoors); an application from an unqualified Junior (with time for study) would be considered. A. Peel, 7 Half Moon Lane, Herne Hill, S.E.

LONDON, S.E.—Required, qualified man for medium-class business; permanency; interview courted. Kindly state when disengaged, age, salary, and references, Beale & Son, Chemists, South Norwood, S.E.

LONDON, S.E.—Wanted at once, qualified Assistant for first-class Dispensing and Retail; must be a good Dispenser and competent Counterman and have good references; salary £156. In reply state age, height, when disengaged, references, and enclose photo (interview in London necessary), Bailey, Pharmacist, 61 Old Dover Road, Blackheath, S.E.

LONDON, S.W.—Wanted, an Assistant (indoors) for a fortnight in August or early September; capable of taking charge; good reference required. Wyatt, Chemist, Barnes.

LONDON, S.W.—Smart capable Assistant, with Counter and Photographic experience; three kept; outdoors; progressive salary and commission; hours 8.30 to 9 p.m., Saturdays 9.30; Sunday duty every third, 6 to 9 p.m. J. Michie, 308 Earl's Court Road, S.W.

LONDON, S.W.—Smart Junior in first-class Retail and Dispensing business; age about 21. Apply, giving full particulars, to "A. W.," c/o Alsop & Quiller, 137 Sloane Street, S.W.

LONDON, W.—Assistant wanted for holiday relief, about August 8 to 29; whole time or morning and evening; no Sunday duty. Write or call, J. R. Faulkner & Co., 173 Ladbroke Grove.

LONDON, W.—Wanted, a Junior qualified Assistant with good Dispensing experience. Apply, stating age, experience, and giving references, to Squire & Sons, Ltd., 413 Oxford Street, W.

LONDON, W.—Qualified Assistant, with good experience, required at once. Apply, by letter only in first instance, J. Robt. Walker, 36 New Cavendish Street, W.

LONDON, W.—Smart Junior Assistant; about 23; unqualified; outdoors; no Sunday or Bank Holiday duty; easy hours; Photographic experience an advantage; chiefly for Dispensing; good experience to be gained; wanted for August 31. Crowe & Co., 19 Air Street, Regent Street, W.

LOWESTOFT.—A good reliable Junior wanted (indoors) for Light Retail and Dispensing; good references indispensable. Apply, stating full particulars, to Sale & Nurse, 59 High Street, Lowestoft.

MAIDENHEAD-ON-THAMES.—Assistant (unqualified), in about three weeks, with Photographic and good Dispensing experience; outdoors (board and residence provided); Welshmen need not apply. Usual particulars, references, and salary to Thompson & Walton, Pharmacists.

MALVERN WELLS.—Wanted by the end of the month, Junior or Improver; usual hours and half-holiday; no Sunday or extra duty; in- or out-doors. A. J. Colston, Pharmacist, Malvern Wells.

MANCHESTER.—Wanted, an unqualified Assistant, accustomed to good-class business; must be good Salesman and capable Dispenser; no Insurance work or Sunday duty. State in full experience, age, salary expected, and whether disengaged, 186/15, Office of this Paper.

MARGATE.—Qualified Branch Manager for permanency, competent and trustworthy, about 30, for good-class Retail and Dispensing business. Full particulars of last two engagements, age, height, and photo if possible, W. M. Rosser, Bailly & Co., 2 Ethelbert Terrace, Margate.

MARGATE.—Wanted at once, smart Assistant; must be good Salesman and Window-dresser; not afraid of work; no Dispensing; interview if possible; if not state full particulars, salary, etc., for the season or permanency as agreed. Lloyd's Drug Stores, 46 Northdown Road, Cliftonville, Margate.

MIDLANDS.—Immediately, energetic and reliable qualified Manager for progressive Cash Chemist's business; permanent berth; ample compensation offered for willing and efficient service. State age and how soon at liberty "Place" (185/17), Office of this Paper.

NEWTON ABBOT, Devon.—Early in September, Assistant (outdoors) for good-class Retail and Dispensing; knowledge of Photography essential. Apply, with usual particulars, to J. H. Biddings, Ph.C., Newton Abbot.

PETERBOROUGH INFIRMARY AND DISPENSARY.—Wanted, a Part-time Dispenser (male or female), holding the Minor certificate of the Pharmaceutical Society; salary £90 per annum. Applications for the post must reach the undersigned not later than Tuesday, August 4, from whom particulars as to hours, etc., may be obtained. A. C. Taylor, Secretary.

PLUMSTEAD, S.E.—Qualified Assistant required for Photographic and Dispensing business; outdoors. Apply to A. Goldthorpe, M.P.S., 70 Herbert Road, Plumstead, S.E.

PRISTON DISTRICT.—Qualified Chemist wanted, lady or gentleman; consideration given to reliable person seeking permanency. Full particulars first letter (live out), Swindelhurst Dunthorpe, Leyland.

PLYMOUTH.—At once, an Assistant and a Junior, both used to a first-class business. Apply, stating salary required, age, height, experience, etc., with photo if possible, Balkwill & Co., 106 Old Town Street, Plymouth.

SOUTHSEA.—Qualified Assistant wanted. Good references and salary required to Arnold & Sons.

TUNBRIDGE WELLS.—Junior (outdoors) for Dispensing business. Full particulars to J. H. Bishop, The Broadway.

WARWICK.—Required about the end of August, a gentlemanly Assistant, 20-24, indoors, for Dispensing, Light Retail, and Photographic. Apply, stating age, height, salary required, with reference and photo, to H. K. Croasdale, The Pharmacy.

YORKS.—Wanted, Assistant, unqualified, married, to live on the premises; must be steady and reliable and good Counterman; used to a country business preferred; good house, with every convenience; permanency for a smart man. Apply, stating age, experience, etc., to Leeming, Chemist, Guisborough, Yorks.

YORKS.—Wanted, Assistant (unqualified), age 24 to 30; one used to a country business; must be steady and reliable. Please state salary, experience, etc., Leeming, Chemist, Guisborough, Yorks.

YORKS, West Riding.—Relief Assistant to take charge at a few Branches during holidays required immediately; unqualified; work congenial, and prospect of permanency if relief work satisfactory. State age, whether married or single, and salary desired, "Relief" (183/117), Office of this Paper.

A VACANCY occurs in West-End Limited Company for a fully qualified Chemist as Director and Manager; qualification £150-£200 in shares; opportunity of sole control. Apply, 9 James Street (opposite Bond Street Station), Oxford Street, W.

ANDERSON & VIRGO, Worcester, require a capable Assistant; qualification not necessary. State age, height, references, salary required, and enclose photo.

ASSISTANT, with first-class Counter experience, required; hours 8.30 to 7.30, Saturdays 1.30. Apply, Mr. H. Longstaff, John Barnes & Co., Ltd., 191-217 Finchley Road, N.W.

ASSISTANT required to manage a small Branch; Welsh preferred but not essential; to live on premises, but find own board; abstainer; must be able to produce satisfactory references. State age and all particulars, with photo if possible, to J. L. Hopkins, Chemist, Pontyeymmer.

ASSISTANT wanted at once for about six weeks; 21-23; used to high-class business; knowledge of Photography; reasonable hours; no Sunday duty. Apply, giving usual particulars, to Dixon, Chemist, Westgate-on-Sea.

ASSISTANT, unqualified; 24-30; good Window-dresser, Counter work, and Dispensing; permanency. References and salary required, Dickenson, Market Place, Mansfield, Notts.

ASSISTANT or good Junior, about August 6, for good-class business; easy hours. Give full particulars and references and state salary required, A. G. Reid, Petersfield, Hants.

ASSISTANT (indoors), with a little knowledge of Photography, for a good-class business; close 7.30 p.m., Thursdays 1 p.m., Saturdays 9.30 p.m. Apply, stating age, height, experience, salary required, and enclose photo, to W. H. Jones, Pharmaceutical Chemist, Malvern.

AT ONCE.—Qualified Manager, with or without view to early partnership or succession; good salary and commission. Apply, "N.," 15 Pellatt Grove, Wood Green, N.

B. ALLEN & SONS, Pharmaceutical Chemists, 20 High Road, Kilburn, will shortly have a vacancy for a qualified Assistant (outdoors) with Dispensing and General experience. Apply by letter, giving usual particulars.

COMMENCING August.—Smart, unqualified, gentlemanly Assistant for good-class Mixed business in seaside resort; must be good Window-dresser; knowledge of Photography essential; stainer preferred; outdoors; permanency to suitable man. Apply, with references and photo, to H. K. Duckworth, Chemist and Optician, Grange-over-Sands.

DISPENSER (unqualified), 20-24, for Surgery; mornings and evenings only; resident of London preferred. Apply, stating age, married or single, experience and with whom, 184/39, Office of this Paper.

DISPENSER (Locum-tenens) wanted at the South-Western Fever Hospital; Lander Road, Stockwell, S.W., for three weeks from August 3; salary at the rate of £120 per annum; persons holding only the Minor qualification are not eligible. Apply to the Medical Superintendent.

DISPENSER for N.H.I. work required; evenings; references required. Brown, 40 Essex Road, Islington, N.

DISPENSERS.—A number of women Dispensers are required temporarily in connection with the pricing and examination Chemists' Prescriptions. Applications, on foolscap paper, in applicants' own handwriting, should state qualifications, experience, and age, and be accompanied by copies of not more than three testimonials, and forwarded addressed, 259/52, Office of this Paper.

RUG Store Manager required for London, E.; unqualified; outdoors; 25 to 35; previous experience as such essential; Poison or Dispensing; salary and commission basis; good opportunity for right man looking for a permanency. State early in first application age, experience, and salary expected "P.R." (41/65), Office of this Paper.

ELDERLY Registered Chemist required at once; duties light; knowledge of Optics preferred, not essential; suit retired gentleman desiring to supplement income. 41/66, Office of this Paper.

EVENING work throughout August; Insurance Dispensary, North London; light, easy, comfortable. Apply "Teds" 9/10, Office of this Paper.

HEDGES (CHEMISTS), LTD., Birmingham, require the services of unqualified Assistant; well up in Counter work and Dispensing; outdoors; no Sunday duty. Applicants please enclose to and particulars of age, height, previous engagements, and salary required to Manager, Hedges (Chemists), Ltd., 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, End, Birmingham.

MEDIATELY.—Evenings from 5.30 to 9.30 for Dispensing and general help; about 24 or 26 years of age; gentlemanly willing; strictly honest and sober; must have had experience quick Store Dispensing business; two others kept. Percy T. 1835 King's Road, Chelsea.

NIOR Assistant (outdoors) soon; reliable Dispenser, Photographic, and Counter; in healthy country town. Please state height, experience, and salary required, photo if possible, to Chemist, High Wycombe.

NIOR (unqualified) wanted for old-established Family and Dispensing business; outdoors. Apply, Cornell & Cornell, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 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QUALIFIED Assistant, experienced in high-class Dispensing Business, age about 30, capable of taking management; undeniable references; a co-partnership arrangement could be made with a suitable man. State salary required and references in first letter, 188/29, Office of this Paper.

QUALIFIED Manager wanted for sole charge of Country Druggist's business; a gentleman between 50 and 60 years of age; bachelor or widower will find a comfortable position; light duties; easy hours; home comforts; must be strictly temperate; state particulars; good references required. Newcut Drug Co., Ltd., Newcut, Gloucester.

QUALIFIED Assistant (not manager) wanted at once for a good Country business; outdoors; no Sunday duty; short hours; three others in shop. Please state age, height, reference, and salary required, photo if possible. Apply Exors. of E. Booth, Crewe.

RELIABLE man with references required for a month or six weeks; capable of taking charge; outdoors; dinner and tea provided. Apply, with full particulars, to "Victoria, S.W." (188/34), Office of this Paper.

REQUIRED, in the neighbourhood of London, a qualified Chemist; must have had practical experience in Analysing Petroleum Products. Write, giving full particulars as to age, experience, salary required, etc., to "M. H. O.," c/o Deacons, Leadenhall Street, London, E.C.

SMART Junior wanted for first-class Country business, Retail, Dispensing, Photographic; age about 21. Please state height, salary required (outdoors), give experience, and enclose photo, Perks & Llewellyn, Pharmaceutical Chemists, Hitchin, Herts.

UNQUALIFIED, married, no family, age 35 to 40, wanted for early August; obliging, trustworthy, capable Assistant; live on premises; abstainer preferred; must be quick; good Window-dresser, Salesman. Apply, Godfrey C. Wood, Penygarne, Pontypool, Mon.

UNQUALIFIED Assistant, age about 20 to 25; outdoors. Apply, Bntes, 51a High Street, Camden Town, N.W.

WALTON & CURTIS, LTD., 190 Broadhurst Gardens, N.W., require a good Junior Assistant; outdoors; age 20-22. Apply, with full particulars, to Manager.

WANTED, Locum for six weeks, commencing about August 4; or opening for unqualified Junior; outdoors. Full particulars, age, salary, etc., by letter in first instance to C. F. Ward, M.P.S., 16 Guernsey Road, Ilford, Essex.

WANTED immediately, a Junior or unqualified Assistant for good-class Agricultural and Dispensing business, with N.H. Insurance; must be smart, energetic, and obliging; one unmarried and total abstainer preferred. A. L. Bratley, Chemist, Market Place, Pontefract.

WANTED, a reliable, trustworthy Assistant, who would accept some responsibility under proprietor; middle-age and seeking a permanency preferred; single or married; in- or out-doors; give fullest particulars re references, wages, etc., in first letter; applications not answered in three days respectfully declined. Apply, T. Thomas, Pharmacist, Trecharris.

WANTED immediately, qualified Locum for the whole of August; indoors or outdoors. Bennion, Chemist, Watford.

WANTED at once, qualified Manager to work up neglected Branch, or would sell on easy terms to good man with small capital; splendid chance; N.H.I. Dispensing, Clubs, etc.; no near opposition; London, S.W. Apply, with full particulars, 188/30, Office of this Paper.

WANTED, a Junior and a Senior Assistant, with experience in high-class Dispensing establishments; no Insurance work entertained. Apply, stating age and full particulars of experience and salary required, to "Pharmacist" (41/73), Office of this Paper.

X-RAY Operator wanted at once. State in full experience, salary, and age, 41/58, Office of this Paper.

£5 WEEKLY.—Chemist wanted immediately by limited company with two Retail shops to replace present managing director, who is going abroad September 1; must be qualified, capable, and able to invest £500; perfect security offered; salary £5 weekly, plus proportion of net profits. 187/8, Office of this Paper.

WHOLESALE.

FOR the Far East.—A Clerk, having had experience in Wholesale Drug House; preference given to one accustomed to keeping stock books and pricing goods; age about 25; good salary and terms to suitable man; 4 years' agreement; passage paid out and home. Address, 186/43, Office of this Paper.

NORTH OF ENGLAND.—Wanted, young Pharmacist, about 25, by high-class firm, to call on Doctors and Chemists; permanent and progressive position for suitable man; native of North of England preferred. State full particulars, references, and salary expected, 36/14, Office of this Paper.

ADVERTISING.—Young man, with Pharmaceutical experience (not necessarily qualified), wanted by large Wholesale firm in London; must produce evidence of ability to write crisp, attractive English. Give full particulars of experience, age, and salary required to "B. L." (41/51), Office of this Paper.

ASSISTANT wanted by London Perfumery house; female preferred; used to Wet Counter of Drug house or Laboratory work. Spurway & Cie., Ltd., 14 Bartholomew Close, E.C.

CHEMIST, with good Analytical experience, required in large Manufactory of Chocolates, Confectionery, Jellies, Soups, etc. Apply, stating age, experience, salary required, to 182/7, Office of this Paper.

COUNTER hand, aged about 20, required on Dry Floor of London Wholesale house. State previous experience and wages required to 183/34, Office of this Paper.

DRY Counter.—Assistant wanted, about 20 to 22, by firm of Manufacturing Chemists; one used to finishing off Wet and Dry Goods. State experience and wages expected to 34/36, Office of this Paper.

EXPERIENCED all-round Tablet Maker; capable taking full charge; Sugar-coating essential; good wages to suitable man. Reply, giving full particulars of experience, to 184/32, Office of this Paper.

FOREWOMAN for Packing Department wanted by Perfumery house; must have had experience in similar position and be used to best-class work. Spurway & Cie., Ltd., 14 Bartholomew Close, E.C.

JUNIOR Analyst, with some experience of Drugs and Pharmaceutical Chemicals, wanted by a London manufacturing house. Apply, stating salary required, etc., etc., to 36/4, Office of this Paper.

REQUIRED, an experienced Pill Maker and Sugar Coater. Apply, with full particulars as to experience, age, salary required, to Reynolds & Branson, Ltd., Wholesale Chemists, Leeds.

STOCKKEEPER wanted; young man who has had a large experience of Chemists' Packed Goods. Apply, giving fullest particulars and past employment, age, and salary required, to "Energy" (41/5), Office of this Paper.

TOWN Representative wanted early for Edinburgh and district by Edinburgh Wholesale Drug house. Apply, giving references and stating salary expected, 39/69, Office of this Paper.

TRAVELLER wanted, with connection amongst Chemists and Druggists in London and suburbs, to represent manufacturer and sundriesman; permanent post to energetic honest man. Apply, giving full particulars, terms required, etc., "Confidence" (188/22), Office of this Paper.

WANTED, Traveller on commission to call on Chemists in London and country with high-class Proprietary Article as side-line. Write, "W. S.," c/o Willing's Advertisement Offices, 33 Knightsbridge.

WET Counter.—Junior wanted by Wholesale Druggists, South London. Write particulars of experience, age, wages, to 40/60, Office of this Paper.

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BRITISH EAST AFRICA.—Clerk, with experience of ordinary bookkeeping, costing out, correspondence, and with knowledge of Drug trade; age about 24; single; capable and not afraid of work; three years' agreement; second-class passage; progressive salary commencing at £180. Apply, with full particulars and references, to "E. 111," c/o Tozer, Kemsley & Fisher, Ltd., 84 Fenchurch Street, London, E.C.

EAST INDIES.—Unqualified Assistant, age 22 to 26, single, wanted for first-class British business; good tropical climate; four years' agreement; passage paid; liberal salary to smart man with experience of good-class trade. Apply, giving full particulars of experience, to 184/41, Office of this Paper.

FOR THE FAR EAST.—A Clerk, having had experience in Wholesale Drug house; preference given to one accustomed to keeping stock books and pricing goods; age about 25; good salary and terms to suitable man; 4 years' agreement; passage paid out and home. Address, "Export" (186/23), Office of this Paper.

FRANCE.—Assistant; knowledge of French and Continental experience. Age, height, experience, and salary required to "Paris" (40/54), Office of this Paper.

STRAITS SETTLEMENTS.—Fully qualified and experienced Chemist to sail immediately to take charge of new business; 3 years' agreement; salary \$200, \$225, and \$250 per annum first, second, and third years respectively; passage out and home. Write, with copies of testimonials and stating age, to "J. R. B." (186/32), Office of this Paper.

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The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 6d.

[HOME.] RETAIL.

Price-lists, trade circulars, samples, and printed matter can in no case be forwarded, the Box number being intended exclusively for specific answers to particular advertisements. The Publisher reserves the right to open and refuse to forward any communications received which he may consider contrary to this rule.

ASSISTANT; 32; single; varied experience. Tudor, c/o Beale & Son, Chemists, South Norwood, S.E.

ASSISTANT or Manager, with view to purchase; good-class Retail business. Griffin, 10 Heath Terrace, Leamington.

ASSISTANT; outdoors; unqualified; Midlands; good references; 28. Scholes, 27 High Street, Worcester.

ASSISTANT (29), unqualified, desires berth end of August or early September; permanency. Particulars to "Chemicus," 31 Richmond Road, Oxford.

ASSISTANT; age 40; Mixed business; all-round experience; good references. 185/18, Office of this Paper.

ASSISTANT disengaged soon; Dispensing, Photo; prize Window-dresser. 189/8, Office of this Paper.

CHEMIST'S son, expert Dispenser and Prescriber, desires change; present post over 3 years; unregistered; married; 27; manage or assist; 10 years' Retail experience; what offers? Reply to 185/36, Office of this Paper.

COMPETENT Organic Chemist, Swiss Major Pharmaceutical qualification and D.Sc., seeks situation; knowledge of languages; first-class references; would accept Locum. "Synthesis," Flat 7, 22 Union Street, London, W.

DISENGAGED Shortly. — Manager; unregistered; up in all branches; married. 184/40, Office of this Paper.

DISENGAGED August 6; Locum, any period; thoroughly competent, reliable; town or country; all-round experience; good testimonials; terms moderate. Davis, 214a The Grove, Hammer-smith, W.

DISENGAGED; Locum; permanency; age 38; qualified; good references. 41/44, Office of this Paper.

DISPENSER. — Young lady (Hall qualification) desires post, Southsea. "E. G. P.," 108 Festing Grove.

DISPENSER; qualified; outdoors; excellent references; end July. "Pharmacist," 22 Lonsdale Road, Barnes.

DISPENSING Counter. — Qualified, holding appointment, disengaged mornings till 1 p.m. "Pharmacist," 40 Fitzroy Square, W.

ENGLISHMAN (R.C.); unqualified; Counter, Dispensing, etc.; good experience; East Coast of Ireland (Co. Louth preferred). 186/24, Office of this Paper.

EVENINGS; qualified; abstainer; excellent references and experience; W. or S.W. "Rex" (183/21), Office of this Paper.

EXPERIENCED Locum; capable Window-dresser and Counter Salesman; South Coast preferred; terms moderate. "Chemicus" (187/92), Office of this Paper.

EXPERIENCED Window-dresser and Salesman open for immediate engagement; Locum or permanency. "Energetic" (187/29), Office of this Paper.

FRENCHMAN; 24; disengaged August 10; fluent English; smart Dispenser and Counterman; 8 years' experience, including 9 months in England; knowledge Photography; good references; London or South Coast; outdoors. Allard, 9 Beach Road, Littlehampton.

IMPROVER; age 19; 4 years' Hospital experience; capable Dispenser; well recommended; anxious for Retail experience. "Success" (186/12), Office of this Paper.

JUNIOR (21) requires fortnight engagement, commencing August 3; good references; twelve months in South Kensington. Hitchcock, Greenhill Lane, Alfreton.

LADY Dispenser (Hall), experienced, knowledge Shorthand. Bookkeeping, requires post in London with Doctor or Institution. "A.," 57 Oxford Terrace, Hyde Park.

LADY, qualified, good experience, desires post; Scotland preferred; disengaged August 15. 183/16, Office of this Paper.

LADY Dispenser (Hall) requires post with Institution or Doctor. "A. H.," 31 North Boulevard, Hull.

LIVERPOOL. — Dispensing, Store experience; energy not evanescent; smart Dispenser; Locum or permanent. Dunlop, 158 Poulton Road, Seacombe.

LOCUM; 7 or 10 days first half September; qualified; 25; West-End experience; good references. "M.P.S.," 11 Priory Road, London, N.W.

LOCUM; qualified; 30; competent, energetic; good experience; references; terms moderate. 183/13, Office of this Paper.

LOCUM, qualified; 20 years' first-class experience; open to engagement after August 8. "Aspirin," 29 Avondale Road, Southampton.

LOCUM, qualified, experienced; disengaged from the 28th. "Pharmacist," 23 Elms Avenue, Eastbourne.

LOCUM, unqualified, experienced, will give services fortnight in August or September exchange for expenses from London and hospitality self and wife. 185/93, Office of this Paper.

LOCUM disengaged; qualified; good experience and references; energetic. "Maranta," 5 Brighton Terrace, Horley.

LOCUM, qualified; competent, reliable; disengaged August 5 to 25, September 2 till 6, after September 27. "J.," c/o Challice, Chemist, Villier Street, W.C.

LOCUM Tenens; reliable. Idris Lloyd Jones, M.P.S., c/o Messrs. Anthony & Co., Chemists, Cardiff.

LOCUM; 23; disengaged end of August. Harrison, c/o Brown, Chemist, Felixstowe.

LONDON.—Assistant; 20; outdoors; free August 1. Smith, 54 Oakhill Road, Wandsworth.

LONDON M.P.S. offers his services daily from 1 p.m. till closing time; age 40; highest references; good address. 185/3, Office of this Paper.

MANAGER; unqualified; age 45; well up in all branches; reliable; best references. F. L., 18 Cruikshank Road, Stratford, E.

MANAGER; qualified; 33; excellent all-round experience; disengaged shortly. "Iridin," 29 West Bank, Stamford Hill.

NURSE-DISPENSER (Hall) requires holiday post to Doctor or Institution for month from August 21. "N. M.," 116 Anyand Park Road, Twickenham.

PERMANENT situation required by young man of good address, who is well conversant with Dispensing, Counter work, Stock-keeping, and Window-dressing, though unqualified; Northern district preferred; reliable reference. "Industrious" (182/28), Office of this Paper.

PHARMACIST, 22, with Continental experience, speaking French and German, slight knowledge of English, seeks situation in Pharmacy from September 1; terms moderate. Address, Em. Peusch, Kantenbach, Luxemburg.

PHARMACIST, experienced, tall, desires change; Manager or Senior; Tyneside district. Address, "Pharmacist," 255 Stanhope Street, Newcastle-on-Tyne.

PORTSMOUTH and Country District.—Wanted, relief work, two or three days per week, by elderly Chemist; interview given. W. O. Smith, Charlford, Farcham.

QUALIFIED (29) desires situation in Cash Retail business; outdoors; good references; Birmingham or near preferred. 183/10, Office of this Paper.

QUALIFIED Dispenser desires Prescription Pricing for N.H.I.; experienced; 1s. per hundred. "P." (184/33), Office of this Paper.

QUALIFIED Dispenser, Retail and Dental, N.H.I. experience, married, desires post, South Coast. State salary, "Alpha" (182/9), Office of this Paper.

QUALIFIED; Manager, Locum, or position of trust. "K.," c/o Evans, Bartholomew Close, E.C.

QUALIFIED; 27; Manager or Senior; all-round experience; 3 years' West End; abstainer; disengaged September. "J. M.," 34 Trouville Road, Clapham Park, S.W.

QUALIFIED; young, energetic, and reliable; good all-round experience; abstainer; disengaged shortly; Please apply, with full particulars, to 187/12, Office of this Paper.

QUALIFIED Pharmacist, 20 years' all-round experience, requires position of trust; London; management of department store, charge of manufacturing department, or similar position; undeniable references. "Abstainer" (187/33), Office of this Paper.

QUALIFIED; experienced; Locum or permanency; energetic, capable, trustworthy; disengaged August 4. Stansfield, c/o Plant, Chemist, 149 Balby Road, Doncaster.

QUALIFIED (23) requires evening work, London. "N. E.," 39 Mayflower Road, Clapham.

QUALIFIED Manager or Senior (29); experienced. Jackson, 5 Station Parade, Bastbourne.

QUALIFIED, experienced, speaking French and German, knowledge of Photography, desires Managership. 188/26, Office of this Paper.

QUALIFIED; elderly; active; moderate hours; good testimonials. "Specs," 35 Paddington Street, Marylebone.

SENIOR or Managing Assistant, excellent experience in all branches, including Visual Optics, desires position where inducement is offered; modern Window-dresser and keen Salesman; short hours of a busy city business considered, or would continue Locum work until September prior to permanency; free August 4; age 32. Apply first instance to "Chemist," Crayford, Kent.

SOUTH COAST or Midlands.—Advertiser desires Managership or First Assistant; 3 years last berth; expert Optics, Homœopathy, and Photography; excellent references; abstainer; age 26; permanency; married. Guise, 99 Upper North Street, Brighton.

STUDENT; 22; evening work; South Coast experience; only good class; S.W. preferred; accept Locum to August 18; no Sunday. 184/20, Office of this Paper.

UNQUALIFIED; Locum, permanency; 36; married; experienced; good references. Bottomley, Bell Hall, Halifax.

UNQUALIFIED Assistant; 32; neat, accurate Dispenser; high-class experience; energetic, reliable. 180/23, Office of this Paper.

UNQUALIFIED, 34, married, desires position as Assistant or Dispenser to Doctor in country or seaside; short hours main consideration; or as Traveller home each night; present berth 9 years; total abstainer; highest references; personal interview if desired. Robinson, Hill Road, Tividale, Tipton.

UNQUALIFIED Pharmacist or Surgery Assistant; good Extractor and Prescriber; middle-aged; married; no family; at liberty. Apply, Lindon House, Darlington Road, Ferryhill.

UNQUALIFIED; permanency desired; country preferred; married; no family; Dispensing; good general experience. 185/35, Office of this Paper.

UNQUALIFIED; 21; Dispensing and all-round experience; apprenticed with large high-class North Country firm; permanency; country preferred. State salary, 186/16, Office of this Paper.

UNQUALIFIED; 33; tall; Dispensing and Prescribing first class; keen Salesman; entire charge; my personality wins confidence. P. G. Abraham, 1 Prospect Cottages, Barnstaple.

UNQUALIFIED Assistant; 24; good Dispensing and Counter experience; smart appearance. State salary and particulars, "Rhei," 77 Marine Parade, Worthing.

UNQUALIFIED Assistant; 4 years' Dispensing and Photographic experience; Yorkshire. 187/10, Office of this Paper.

UNQUALIFIED; evening work wanted; Dispensing or Surgery Attendant. "A.," 24 College Street, Chelsea.

YOUNG Pharmacist seeks position as Branch Manager; Liverpool or North Wales district preferred; good all-round experience; excellent Salesman. 187/5, Office of this Paper.

40S. outdoors, permanency less, secures service of experienced, reliable, able, and industrious middle-aged unqualified; best references; good-class country district. "Ferrum" (187/14), Office of this Paper.

APPRENTICESHIP wanted; indoors; Thames Valley preferred; excellent references. Apply, Dennis, Burnham, Bucks.

WHOLESALE.

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AMBITIOUS young man (25) seeks situation, home or abroad, A with Wholesale Drug house; any capacity; 10 years' Wholesale and Retail experience; references. 181/32, Office of this Paper.

CHEMIST, Englishman, 33, married, with Continental training (Zurich), having occupied positions in laboratories and works on the Continent and in America, is desirous of a permanent position in England; 5 languages perfectly, also experience in literary work and translations. Box 3363, c/o Berry's, Gresham House, E.C.

COMMERCIAL Traveller, energetic, capable, shortly disengaged, requires situation with first-class house; age 31; considerable and varied experience. 183/20, Office of this Paper.

ENERGETIC young qualified Irish Chemist desires position as Traveller, England, Scotland, or Wales; experience of travelling; good salesman; free August 1. 183/39, Office of this Paper.

FRENCH Chemist, 24 years old, who has specialised as Food Analyst and Bacteriologist, wishes to spend three months in England in order to learn the language; desires to be employed in the Factory of a Preserver or Chemical Manufacturer or in a large Chemist's or Druggist's Stores; au pair, or would pay a small fee. Address, "F. S.," c/o Davies & Co., Advertising Agents, Finch Lane, Cornhill, E.C.

MAN (35) seeks situation, any capacity; London preferred; 12 years well-known London house. "C.," c/o Taylor, 5 Maybury Cottages, Frimley, Surrey.

PACKER, 12 years' experience, seeks situation; excellent reference. "G. T.," 31 Manaton Road, Peckham Rye, S.E.

PHARMACIST (36) desires post as Representative or otherwise; sound knowledge Therapeutics and all branches Retail; now engaged. 26 Grasmere Road, Muswell Hill.

QUALIFIED Chemist leaving Retail wishes position as Traveller or Agent (Scotland) for Druggists' Sundries, Cattle Medicines, or Sheep Dips. Apply, 183/11, Office of this Paper.

TABLET Maker and Granulator; 4 years' experience; Aloes and Cascara, etc.; also Pill maker. "R. M.," 46 Moye Street, Shoreditch, N.E.

TWO Manufacturers of Medical, Toilet, Perfumery, and Proprietary Articles.—Chemist open to engagement; original Formulas new and established; large London business experience. 187/19, Office of this Paper.

TRAVELLER, Drugs and Sundries, first-class connection South Wales, West of England, requires berth; excellent references. 183/30, Office of this Paper.

TRAVELLER, with over 20 years' experience and extensive connection amongst Chemists, desires re-engagement with Drug or Sundries house; correspondence invited. 185/9, Office of this Paper.

TRAVELLER, experienced, desires to Represent good house; Drugs or Sundries; sound connection. 185/17, Office of this Paper.

TRAVELLER, experienced speciality Salesman; disengaged shortly; good knowledge of the trade. 187/20, Office of this Paper.

TRAVELLER, experienced, commercial training, smart salesman, open to Represent first-class house; Essences, Oils, etc.; sound connection Mineral-water makers, Confectioners, etc. Apply, 179/18, Office of this Paper.

WAREHOUSE and Despatch; 15 years' experience as Manager; capable organiser; good knowledge of Essence trade; excellent references. Foster, 31 Matham Grove, East Dulwich, S.E.

WETS, Drys, Packed Goods. — Manufacturing, dispatch; 18 years' practical experience; age 37; good references. "Alpha," 52 Queen's Road, Nottingham.

SITUATIONS WANTED.

(Colonial, Indian and Foreign.)

1s. for 12 words or less; 6d. for every 10 words beyond, prepaid. The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 6d.

This heading is reserved for assistants seeking situations in the British Colonies, India, and Dependencies or elsewhere abroad.

LADY Dispenser (Hall) desires re-engagement abroad; 2½ years' experience; good references. "A. E. S.," Henry Road, Chelmsford.

QUALIFIED; age 25; good appearance; the Colonies, Australia preferred. "C. B. B.," 40 Market Street, Falmouth.

RELIABLE Assistant (23), good Dispensing, Retail, Optical, seeks place abroad; exemplary character; abstainer. "Savon" (185/34), Office of this Paper.

MISCELLANEOUS.

WILL person who sent us advertisement on 22nd inst., "Bi-Co.," communicate his address, which was omitted, to the Publisher?

MADAM & TUCKNISS, Sharedealers, Bank Chambers, Blackheath, S.E. Established 1898. Telephone 81 Lee Green. Shares for Sale (free of commission, subject). — 200 British Oxygen, 43s. 9d. (dividend and bonus last year 20 per cent.); 50 Lewis & Burrows 6 per cent. Preference, 13s. 3d.; 100 St. Ivel 6 per cent. Preference, 17s. 6d.; 10 Meggeson Preference, 93s.; 300 Thorn & Hoddle Acetylene 6½ per cent. Preference, 19s.; 100 Veno Drug, 19s. 6d.

Wanted (subject).—120 Wright Layman Preference, 21s.; 100 Veno Drug.

List of Shares for Sale and Wanted sent free on application. Every effort made to effect business for Buyers and Sellers in all Stocks and Shares. Bankers, London County and Westminster.

SHOWCASES.—TO SEASIDE PHARMACISTS.—Several all-glass Counters, Silent Salesman, and other money-making Showcases, second-hand and in excellent condition, ready for immediate dispatch; genuine bargains; these cases make fresh business every time a customer calls. Write for particulars, PHILIP JOSEPHS & SONS, LTD., 93 Old Street, London, E.C.

TO "HALL" DISPENSERS. Important and Urgent!!

Will every Dispenser holding a position in Poor-Law Infirmary, Hospital, Dispensary, or kindred public institution as Dispenser, by virtue of the possession of the Apothecaries' Hall Dispenser's Certificate, please communicate with the undersigned at once, stating how long he or she has occupied the position, and enclosing a stamped addressed envelope.

FRANCIS E. TRAYNER, Hon. Secretary
(Association of Certificated Dispensers, Apothecaries' Hall),
13 Carlton Road, Manor Park, Essex.

A CHEAP LINE IN BOTTLES

ADVERTISERS WISH TO DISPOSE OF
70 GROSS 3 oz. MEDICINE BOTTLES,
and are open to offers for whole or in part.

THERMOS LIMITED,
8 Long Lane, Aldersgate Street, London, E.C.

8/-

JAY MACK'S LEDGER

with Cash Book, gives all the
Book-keeping the Retailer needs.

*Trial Edition, less than 250 sets left.
Had to be bound in 10/6 style to last 4 years.*

Post free from **MACK-IVOR, Hightown P.O., CREWE.**

CHEMISTS' Fittings, Silent Salesman Showcases, Drugfittings, Dispensing-screens, Wall-cases, Perfume-cases, Desks, Glass-front Counters, Counter Drawers, Shop-soiled, Second-hand, at unbeaten prices; before you decide get my estimate, you can't do better; 30 years fitting Pharmacists. George Cook, the Chemist's working Shopfitter. New address: Catherine Street, City Road, E.C. (few doors from Old Street).

CHEMISTS' Second-hand Modern Fittings.—12-ft. Drug Fitting, 10-ft. Glass-fronted Counter, Nest of Counter Drawers, 6-ft. Dispensing Screen and Counter, Perfumery Case and Desk, Mahogany Bent Plate-glass Counter Case, 8-ft. Window Enclosure, Plate-glass Mirror, the lot 449; bargain. Send for sketches. Cheapest house for Structural Alterations, Shopfronts, Window Enclosures, Glass Shelves; Estimates free. H. Mills, Chemists' Shopfitter, Shopfront Builder, and Glass Facia Works, 163-5 Old Street, E.C. Phone 550 London Wall.

BEST cash price for all old Cameras, any make, also all old Photo goods, no matter how damaged; any kind you may have send them along; cash will be sent same day; no waiting; we buy all and return nothing. S. E. Hackett, 23 July Road, Liverpool, E.

£25 10s. will buy 12-ft. Drug Fitting (Glass Knobs and Labels), 11-ft. Mahogany-top Counter, 4-ft. 6-in. Wall Case, Dispensing Screen and Counter, Perfume Case and Desk; all sound and in good condition. Call or write, RUDDUCK & CO., 262 Old Street, E.C.

THE CHEMISTS' FRIENDLY SOCIETY

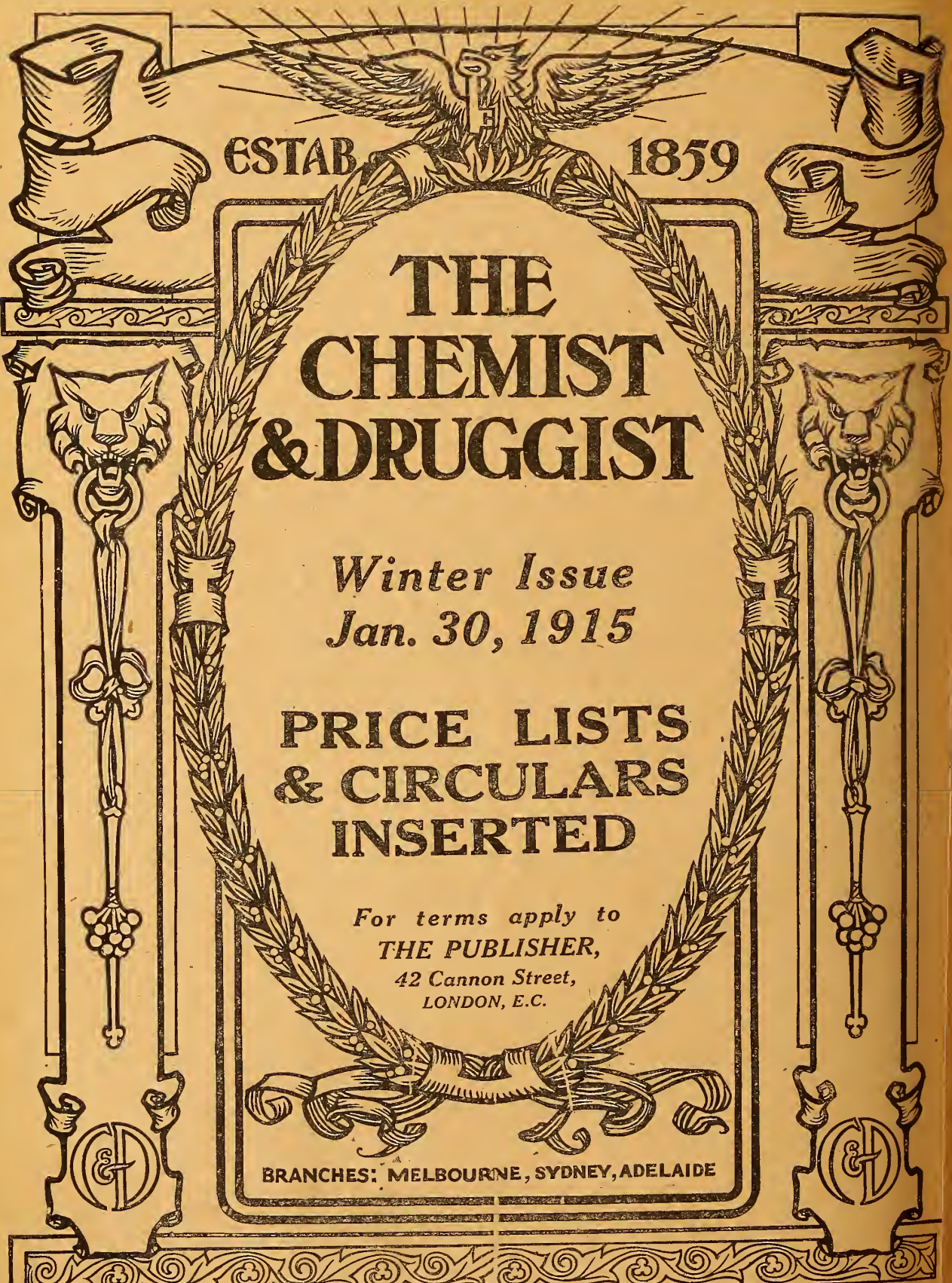
Members who have failed to send their past due Contribution Card or Cards and Insurance Book to the Office by the time their arrears account is made up, must necessarily have their rate of benefit reduced. It is requested that Cards and Books be forwarded to the Office **at once.**

The MANAGER, C.F.S. (C Dept.)

194 St. Vincent Street, Glasgow.

ESTAB

1859



THE CHEMIST & DRUGGIST

Winter Issue
Jan. 30, 1915

**PRICE LISTS
& CIRCULARS
INSERTED**

For terms apply to
THE PUBLISHER,
42 Cannon Street,
LONDON, E.C.

BRANCHES: MELBOURNE, SYDNEY, ADELAIDE

SACCHARINE

550 times sweeter than Sugar.

Guaranteed to pass the most stringent tests.

AT LOWEST PRICES.

We are not agents for the Syndicate, we are an independent source of supply.

Please apply for further particulars to

A. & M. ZIMMERMANN, 3 Lloyd's Avenue, LONDON, E.C.

ALLOW ME TO SEND YOU

particulars of my Window Centre Library. The best aid to modern window advertising. Over 50 different centres. What was only possible to the big advertiser, is now possible to every Pharmacist. Particulars of this and my Business System Free. Only one Pharmacist in a town supplied. A Ph.C. writes: "I've been with you 4 years, book me again; your window centre scheme is the best aid to attractive window advertising one can have."

BILLYARD ALLISON, PHARMACIST, RETFORD.

EXCHANGE COLUMN

One halfpenny per word with name and address. One penny per word if we register the address and attach a number.

No advertisement inserted for less than 6d.

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FOR DISPOSAL.

SHOP FITTINGS.

TWO show-cases, mahogany and plate-glass doors, each 5 ft. high, 3 ft. 8 in. wide, and 8 in. deep, standing on one glass-fronted case, with four glass doors, 9 ft. 8 in. long, 3 ft. high, and 1 ft. wide; make a splendid shop-side fitting; all or separate; £8 the lot. Apply, Harlow, 6 Queen Street, Louth.

OPTICAL AND PHOTOGRAPHIC.

LANCASTER (Instantograph) camera, 1-plate, on tripod, with two dark slides, camera case with shoulder strap, one new view cloth and one old, all in good condition and little used, 30s. Chilwell, Wilneecote, Tamworth.

FACE THE QUESTION

OF THE SELLING POWER OF YOUR WINDOW.—DOES IT PAID?

IF NOT—THEN SECURE AN INCREASE OF TRADE.

Send P.O. 1/10, Name of TWO PREPS. of 15 Words each, and secure TWO of our LATEST DISPLAYED CARDS, size 15 x 10 and 12 x 9", sent CARR. PAID, and pro o for yourselves THEIR SELLING POWER.

F. MERTEN & CO., 72 Ma lborough Rd., HOLLOWAY, LONDON, N.

MISCELLANEOUS.

PRINTING press, metal type, accessories, 10s.; bargain. Particulars, W. Webster, 291 Normanton Road, Derby.

AIR or water bed for sale, good as new, 72 in. by 35 in.; also round air cushion. Box 100, c/o Clarke, Son & Platt, Ltd., 317 High Holborn, London, W.C.

BOTTLES for sale (10 gross in all); 10-oz. ovals, fluted, 7s. 9d. gross; 10-dram amber Blands, 4s. gross; 2-dram d.-blue, square, 2s. 9d. gross; 3-oz. white vials, 5s. gross; sample sent two stamps; carriage paid London. Lockyer, Chemist, Deptford, S.E.

WANTED.

WANTED, fittings for chemist's shop. Particulars, 8 Colinfeld, Wigan.

WANTED, first few volumes or sets of "Journal Chemical Society" and "Society of Chemical Industry." Hall, Bookseller, Tunbridge Wells.

WANTED, chemist's outside lamp; best cash price. Morten Dodge, Pharmacist, Albert Square, Manchester.

OPTICAL books; Minor, Major, Chemists' books; send prepaid for valuation; cash offers per return. Gower, Bookseller, 41 Voltaire Road, Clapham, London, S.W.

C. & D. SHOPS ACT NOTICE.—An inspector of shops under one of the County Councils, writing in regard to the notice-card which we publish for exhibition by chemists during closing hours on the half-holiday, says: "The notice seems to be as little objectionable to the shopkeeper as it can be made." We supply a pair of the notices for 8d., post free.

Thursday's News.

The estate of the late Mr. Frank Hart, Ph.C., has been valued for probate at 3,705/.

Mr. S. H. Benson, the successful advertising agent, of Kingsway, London, died on Wednesday, July 22.

The late Mr. T. W. Mercer, chemist, Preston, left estate valued at 7,435/., of which 4,268/., is net personalty.

Mr. W. H. Stones, chemist, Ipswich, has been reappointed by the Insurance Commissioners to the local Insurance Committee.

On August 5 a meeting of panel chemists will be held in Aberdeen, and Messrs. J. P. Gilmour and J. R. Hill will speak.

In Banffshire the call on the Insurance Drug Fund decreased in the quarter which ended on July 11 to 188/., compared with 242/., in the same period of 1913.

The late Mr. Robert Drane, chemist, Cardiff, bequeathed his business at 16 Queen Street, there, to his assistants, Alee S. Johnson, Arthur J. Harris, and Edward Jones.

At Bury a Sale of Food and Drugs Acts summons against Mr. Joseph Taylor, chemist and druggist, Ratcliffe, in respect to salt of tartar, has been withdrawn on payment of 5s. costs.

Messrs. Shirley Brothers, Ltd., Rockingham Street, London, S.E., have been appointed sole agents in Great Britain and Colonies (except Canada) for the Metal Package Co., Brooklyn, N.Y.

B.P.C. Excursion.

In dull weather, which greatly improved as the day advanced, a party of 250 left Chester by special train, and after an hour's journey arrived at Chirk. Here the party divided into two sections, one half proceeding by boat to Llangollen and the other half by light railway and road. The pedestrians arrived first, and did full justice to a dinner which had been arranged in a large marquee in the garden by the side of the river weir. When the boat arrived the function commenced. Mr. Farr, in his most happy vein, proposed a vote of thanks to the Local Committee for having contributed so much to the day's enjoyment. The party left at 2.30 p.m. for Berwyn and Valle Crucis Abbey.

London Drug-auctions.

Commercial Sale Rooms,

Mincing Lane, E.C., July 23, 1914.

Owing to the August Bank Holiday intervening, the next drug-sales will take place on Thursday, August 20.

A moderate quantity of drugs offered, of which a larger proportion than usual sold. Cape aloes declined 1s. to 1s. 6d. for firsts, but medium and common grades were steady. Fair hard hepatic Zanzibar in skins sold at a reduction without reserve. Sumatra benzoin was steady. Buchu was firmly held, but no business was done publicly. About half the offerings of cardamoms were disposed of at about steady prices. Dragon's-blood brought full rates for middling quality with a small percentage of good colour. Gamboge inclined to be easier on private business. Guaiacum steady. Jamaica honey in smaller supply, and no good quality offered; prices were steady. New Zealand rather cheaper. Matto Grosso ipecacuanha was barely steady, and Cartagena declined about 1s. 6d. on the private nominal quotation. Jalap still sells cheaply. West Indian lime oil is firm. Myrrh is a dead letter; Tripoli orange-peel is very scarce. Rhubarb was extremely quiet. Grey Jamaica sarsaparilla was 1/7. dearer, Native Jamaica and Lima Jamaica being steady. Senna failed to attract attention, no new Tinnevely being offered. Alexandrian is in larger supply. East African wax realised steady rates for the large supply offered; other descriptions were neglected. The following table shows the quantity of goods offered and sold:

	Offered	Sold		Offered	Sold
Aconite (Jap.)	10	0	Buchu	34	*2
Agar-agar	5	0	Calumba	197	0
Albumen	5	0	Camphor, Jap. (ref.)	10	*2
Aloes—			Cannabis indica	35	4
Cape	126	70	Cardamoms & seed	342	147
Curaçao	14	0	Cascarilla	15	0
Socotrine	30	0	Cassia fistula	14	14
Zanzibar	20	10	Celery-seed	2	0
Anatto-seed	79	5	Chamomiles	6	0
Balsam Peru	2	0	Chiretta	8	0
Balsam tolu	8	0	Coca-leaves	48	0
Bay oil (drum)	1	0	Coleoynth	4	0
Belladonna-root	2	0	Copaiba	13	0
Benzoin—			Cubebs	81	0
Palembang	62	0	Cuttlefish-bone	18	0
Siam	32	0	Digitalis-leaves	9	0
Sumatra	102	23	Dragon's-blood	19	3

	Offered	Sold		Offered	Sold
Ergot	10	3	Puree	5	0
Eucalyptus oil	60	0	Quince-seed	8	0
Fennel-seed	103	0	Rhapontica	10	0
Galbanum	4	0	Rhubarb—		
Gamboge	29	0	China	40	2
Guaiacum	10	10	Sandalwood	10	0
Gum acacia	50	16	Sarsaparilla—		
Honey—			Grey Jam	17	10
Hayti	48	48	Lima-Jam	10	6
Jamaica	84	70	Native Jam	15	15
New Zealand	153	78	Seedlac	24	0
West Indian	5	5	Scnaga	3	3
Ipecacuanha—			Senna and pods—		
Cartagena	22	7	Alex.	86	0
Matto Grosso	27	3	Tinnevely	49	23
Jalap	7	7	Squill	5	0
Kamala	4	0	Strophanthus	28	0
Kino	2	0	Tamarinds	112	0
Kola	13	9	Tonka-beans	11	0
Lime oil (W.I.)	8	1	Turmeric	523	0
Menthol	5	0	Wax (bees)—		
Mint oil (Jap.)	5	0	Abyssinian	80	0
Munjeet	21	0	Aden	3	0
Myrrh	75	0	Australian	7	0
Onbanum	10		East African	229	2.6
Orange oil	1	0	East Indian	60	0
Orange-peel	2	*2	Jamaica	15	0
Orchella-weed	126	0	Morocco	9	0

* Sold privately.

ACONITE.—Japanese (10 bags) was retired at 30s.

AGAR-AGAR.—Five bales fair Japanese strip were retired at 1s. 8d. per lb.

ALOES.—Cape met with a fair demand, considering the quantity offered, 62 packages being sold. Fine firsts, however, were from 1s. to 1s. 6d. cheaper, but middling and common grades were steady. Mossel Bay (usual 20 per cent. tares) fair to good hard bright firsts sold at 32s. 6d. to 33s.; fair firsts, 31s. 6d. to 32s. 6d. (part subject); good seconds, 30s. 6d. to 31s.; fair softish seconds, 29s. to 30s.; dull, part hard, part soft, 29s.; hard dull cindery, 28s. 6d.; and dull soft, 28s. 6d. Ten cases Zanzibar aloes in skins sold without reserve at lower prices, fair to good hard hepatic realising 50s. to 52s., dark ditto at 48s., and inferior at 40s. The price of good hard hepatic under usual conditions is 65s. A bid of 47s. 6d. is to be submitted for fair Socotrine in kegs; 14 cases common dull livery Curaçao were retired at 47s. 6d. per cwt.

ANNATTO-SEED.—A single bag of fair West Indian realised 4d.

BELLADONNA-ROOT.—A bale testing 0.46 per cent. was limited at 60s., and for another bale testing 0.55 per cent. 70s. was wanted.

BENZOIN.—Steady. The chief sale was a string of 18 cases Sumatra at 5/ 15s. per cwt. for good thirds, with small to bold white almonds on dark ground and false-packed ends; in another instance five cases fair thirds sold at 5/ 15s. Fair almondy seconds were limited at 7/ 10s. Twenty cases ordinary barky Palembang seconds were limited at £2s. 6d.

BUCHU.—Firmly held, but no demand in auction. For fine clean green round 6s. was wanted, 5s. 6d. for good green (at which business has been done privately), and 4s. 9d. to 5s. for ordinary to fair stalky. Fair longs, slightly stalky, were limited at 4s. 6d., and ovals at from 2s. 3d. to 2s. 8d. for ordinary bronzy and stalky to good green.

CALUMBA.—Six bags of small to bold pale yellow washed, mostly round root, were limited at 27s. 6d., and 191 bags ordinary small to bold, very wormy sorts, were retired at 12s. 6d. per cwt.

CANNABIS INDICA.—Four packages East African ordinary compressed roll sold at 1s. 1d. per lb.

CARDAMOMS.—Altogether 342 cases offered, and about 150 sold at about steady prices, including the following: Ceylon-Mysore, extra bold fine pale, 6s. 5d.; extra bold good pale, 5s. 11d. to 6s. 1d.; good bold pale, 5s. 2d. to 5s. 6d.; bold and medium dullish to pale, 4s. 8d. to 5s.; small and medium, 4s. 2d. to 4s. 6d.; ordinary to fair brown and splits, 2s. 10d. to 3s. 3d.; bold pale splits, 4s. 3d. to 4s. 6d.; small splits, 4s. 1d.; shells, 11d. to 1s. 1d. A parcel of 84 cases Indian, mostly from Tuticorin, sold: medium to bold pale long, 5s. 7d. to 5s. 8d.; medium pale, 5s. 5d. to 5s. 6d.; small and medium, 4s. 7d. to 5s.; bold dullish pale, 4s. 8d.; small dullish pale, 3s. 1d.; bold round, part reddish, 5s. 1d.; medium, 4s. 7d.; small, 3s. 6d.; splits, 4s. 1d.; small splits, 3s. 3d. to 3s. 4d.; ordinary brown and splits, 2s. 8d. to 2s. 9d.; seed, 4s. 3d.

CASSIA FISTULA.—Steady, 14 cases of fair fresh pod from St. Lucia selling at 16s.

CELERY-SEED of fair quality was limited at 75s. per cwt.
CUBERS.—For small stalky shrivelled berries from Bombay 6*l.* 10*s.* would have been accepted.

DIGITALIS-LEAVES of fair greenish quality (nine bales) were limited at 27*s.* 6*d.*

DRAGON'S-BLOOD.—Three cases of fair ricey and seedy lump sold at 9*l.* 17*s.* 6*d.* Good reboiled lump (London hand-picked) was held at 17*l.* 10*s.*; fair pickings from the reboiled, 9*l.*; and for dull bold bag-shaped lump 7*l.* was wanted.

ERCOT.—A single bag of damp Spanish, extremely wormy (almost unfit for sale), sold at 1*s.* 4*d.* per lb. without reserve.

EUCALYPTUS OIL.—Twenty cases yellow (75 per cent. eucalyptol) were held at 1*s.* 3*d.* per lb.

GAMBOGE.—A bid of 12*l.* 10*s.* is to be submitted for very blocky and damp Siam pipe of fair orange fracture, the limit being 13*l.*

GUAIACUM.—Steady, 10 barrels selling at 1*s.* 1*d.* for fair fatty block, 1*s.* for slightly drossy, 8*d.* to 9*d.* for ordinary drossy, and 5*d.* for inferior drossy.

GUM ARABIC.—Ten bales of ordinary blocky wild Arabian sorts sold at 26*s.* 6*d.* and small reddish at 24*s.* 6*d.*

HONEY.—Jamaica was in small supply, and no good quality offered. Fair brown liquid in barrels sold at from 20*s.* 6*d.* to 21*s.*; darkish brown liquid at 20*s.*; ordinary setting, 20*s.*; five cases ordinary dark liquid West Indian, 19*s.* 6*d.* Of Hayti, 48 packages sold at 18*s.* 6*d.* for ordinary dark liquid and dull yellowish set, 21*s.* to 22*s.* being paid for fair pale yellow set. Of New Zealand, 33 cases sold cheaply at from 37*s.* to 39*s.* for fair yellowish set, and 45 cases from another catalogue realised 44*s.* to 47*s.* for fair to good pale set.

IPEACUANHA was barely steady for Matto Grosso. A bale of fair bright sold at 7*s.* 9*d.*, and for two bales of fair but lean 7*s.* 6*d.* was paid. Cartagena declined 1*s.* 6*d.* per lb., six bales of fair average quality, partly reddish, selling without reserve at 5*s.* 2*d.*, competition running up the final lot to 5*s.* 8*d.*, the private nominal price being 6*s.* 9*d.*

JALAP.—Seven bales of Vera Cruz, part wormy (New York analysis, 10.4 per cent. resin), sold without reserve at 7*d.* per lb., no discount, gross for net.

KOLA.—Nine bags of fair dried African halves (ship reported from Zanzibar) sold at from 3*d.* to 3*d.* 1/2 per lb.

LIME OIL.—A case of fair West Indian distilled sold at 3*s.* 3/4, and a case of hand-pressed was retired at 10*s.*

MINTHOL.—Five cases Kobayashi were held at 10*s.* 3/4 per lb.

MYRRH.—Extremely quiet; a bid of 46*s.* is to be submitted for small reddish glassy sorts of Somali character.

QUINCE-SEED.—Four bags fair Cape were held at 2*s.*, at which business has been done privately.

RHUBARB.—Quiet. Two cases of medium-size flat dull-coated High-dried with half fair, half dark fracture sold without reserve at 7*d.* per lb., being 2*d.* below valuation. The price of medium to bold size round horny High-dried is 10*d.*, and medium to bold flat High-dried 1*s.* Bold round Shensi (High-dried) was held at 3*s.* 6*d.*, and bold round Canton at 3*s.* 6*d.* also.

SARSAPARILLA.—Grey Jamaica was rather firmer, 10 bales selling at 1*s.* 9*d.* (one lot 1*s.* 8*d.*) for fair fibrous. Native Jamaica was steady, 16 bales selling at 11*d.* to 1*s.* for dull red and yellow mixed, and 1*s.* to 1*s.* 1*d.* for fair to good red press-packed. Lima was also steady, 11 bales realising 1*s.* 5*d.* for good and 1*s.* 4*d.* for fair.

SENEGA.—Three bales of fair quality sold at from 2*s.* 3/4 to 2*s.* 4*d.* per lb., being cheap.

SENNA.—Of Tinnevely, 49 bales leaf and pods offered; 23 sold, including small greenish sea-damaged at 2*d.* and common small yellowish at 1*d.* 1/2. Pods, dark to fair, 1*d.* to 3/4 per lb. Four bales of good pale Alexandria pods were limited at 1*s.* 7*d.* per lb.; for fair 1*s.* 1*d.* was wanted, 1*s.* being refused. Fair whole leaf was bought in at 1*s.* 1*d.*, half-leaf at 10*d.*, and sittings at from 4*d.* to 5*d.*

SQUILL.—Five bales fair pale were limited at 20*s.* per cwt.

STROPHANTHUS is declining in value, 28 bags part fair Kombe being retired at 1*s.* per lb.

TAMARINDS.—Calcutta, which have been scarce, were offered at 17*s.* per cwt. for good pasty black (40 packages).

WAX, BEES'.—East African met with a quick sale, 226 packages changing hands at steady prices, comprising fair to good yellow block at from 7*l.* 12*s.* 6*d.* to 7*l.* 15*s.*; fair, part dark and drossy block, 7*l.* 10*s.*; ordinary to fair Mozambique, broken and crumbly ball, 7*l.* to 7*l.* 5*s.*; small clean pale, whole ball, 7*l.* 5*s.*; heated ditto, 7*l.* 2*s.* 6*d.* to 7*l.*; ordinary broken ball, part drossy, 6*l.* 17*s.* 6*d.* to 7*l.* Eighty bales Abyssinian block of fair quality were retired at 7*l.* 5*s.*, a bid of 6*l.* 2*s.* 6*d.* being refused. Jamaica was bought in at from 8*l.* 10*s.* to 8*l.* 15*s.*; for bleached Calcutta 7*l.* 2*s.* 6*d.* was wanted.

Writing in regard to *Opium*, a Smyrna advice, dated July 17, states that the sales this week amount to 45 cases new crop at 15*s.* 6*d.* to 17*s.*, as to quality. It has rained again in many districts in the Interior, in consequence of which very high prices are being paid, and in the Karahissar market as high as 19*s.* to 21*s.* has been paid for new crop. The arrivals in Smyrna are 625 cases, against 990 at same date last year. Further quotations received in London to-day in regard to *Lemon* and *Orange* oils denote an easier market again, lemon offering at 6*s.* 9*d.* and sweet and bitter orange at 7*s.* 10*d.* per lb. c.i.f. London. *Bergamot* is without change.

Cablegram.

NEW YORK, July 22.—Business in drugs is quiet. *Opium* is steady at \$7.45 for druggists'. Peppermint oil in tins is again lower by 10c. per lb. at \$3.40. Menthol is steady at \$2.98. Cartagena ipeacuanha is lower at \$1.40, and senega is also lower at 58c. Curaçao aloes is dearer at 10c. per lb.

Heavy Chemicals.

Generally speaking, the condition of the heavy-chemical market keeps the same as recently reported, a fairly steady trade being done at all the principal centres, with perhaps a somewhat better inquiry on forward account. Values for the most part rule unchanged from late rates.

SULPHATE OF AMMONIA.—Values in this market again show a slight improvement, and there has been a good demand for prompt parcels. For forward the position may be described as 2*s.* 6*d.* per ton advance on prompt prices for early forward and 5*s.* per ton advance for later forward. As, however, the manufacturers are anticipating a still further improvement in prices, they do not seem over eager to sell forward on above basis. Present nearest figures: London terms, 25-per-cent., 10*l.* 12*s.* 6*d.*; Leith, 11*l.* 2*s.* 6*d.*; Liverpool, 11*l.* to 11*l.* 2*s.* 6*d.*; and Hull, 10*l.* 17*s.* 6*d.* to 11*l.*

ALKALI-PRODUCE.—Bleaching-powder has again been in heavier demand, and stocks are on the low side. Prices range from 5*l.* 2*s.* 6*d.* to 5*l.* 15*s.* per ton, according to conditions. Caustic soda rules steady at late rates, and has been moving well. Home trade, 70-per-cent., 9*l.* 7*s.* 6*d.* to 9*l.* 12*s.* 6*d.*, and 60-per-cent., 8*l.* 7*s.* 6*d.* to 8*l.* 12*s.* 6*d.*. Export, 76-per-cent., 8*l.* 15*s.* to 10*l.*; 70-per-cent., 8*l.* to 9*l.* 5*s.*; and 60-per-cent., 7*l.* to 8*l.* 5*s.* per ton, according to destination. Ammonia alkali has been in good average request, and is maintained at 2*l.* 17*s.* 6*d.* to 3*l.* 10*s.* per ton, free on rails. Soda crystals in demand, and somewhat scarce at 42*s.* 6*d.* to 45*s.* per ton, free on rails in bags. Yellow prussiate of potash in fair request at 5*d.* to 6*d.*, and soda at 3*d.* to 4*d.*. Chlorates of potash and soda, 3*d.* to 4*d.*. Bicarbonate of soda has been moving steadily at 5*l.* to 5*l.* 10*s.*. Hyposulphite of soda has been in strong demand, and prompt supplies of all qualities are difficult to obtain. Ordinary crystals, in casks, 5*l.* 7*s.* 6*d.* to 5*l.* 17*s.* 6*d.* per ton. Deliveries in 1-cwt. kegs vary from 5*l.* 17*s.* 6*d.* to 8*l.* per ton, according to quality, quantity, and destination. Silicates of soda keep steady at late rates, and have been in good demand both on home and export account; 140° Tw., 4*l.* 12*s.* 6*d.* to 5*l.* 2*s.* 6*d.*; 100° Tw., 4*l.* 2*s.* 6*d.* to 4*l.* 12*s.* 6*d.*; and 75° Tw., 3*l.* 12*s.* 6*d.* to 4*l.* 2*s.* 6*d.* per ton, according to quality, quantity, and destination.

Japanese Mint Oil.

According to the Japanese "Daily Herald," the annual amount of so-called peppermint produced in Japan now reaches about 650,000 kin, of which about 60 per cent. is produced in Hokkaido. The following figures show the area under cultivation and the output for this province during the past three years:

	Cho.	Kin
1911	3,578	183,265
1912	5,665	303,734
1913	9,298	384,843

[Cho=2.45 acres; kin=1.32 lb.]

English Peppermint and Lavender Crops.

Messrs. W. J. Bush & Co., Ltd., write that the outlook for Mitcham peppermint is anything but encouraging. For the past three years the crops have been stationary or dwindling, and during this period practically the whole of the season's yield has been taken for current consumption. There is no doubt that much less herb has been planted, and it therefore follows that the acreage under peppermint is much less than it has been for some considerable time past. These conditions, coupled with a sudden demand during the last few weeks, has resulted in clearing out many, if not all, of the smaller holders, and it is conjectured that stocks usually held by the larger and more important holders are

also much depleted. These factors have put prices up to high-water mark, and it is not expected that any reduction on the rates now current will take place; on the contrary, it is thought that values will reach a level the like of which have not been seen for very many years.

The lavender-herb looks excellent and the crop promising. Bunching, however, pays so much better than using the herb for distilling purposes, that unless present figures are maintained the amount of oil that may be produced will not be largely increased beyond that of last year. Here also, in conjunction with peppermint, high-water values are being asked.

Dr. B. W. Gathergood's Exor. writes that "our crops of belladonna and henbane are rather short, and other crops are not up to the average, owing, as we consider, to the very dry weather experienced in the spring."

Mr. Joseph Seymour states that the peppermint planted out this year is doing fairly well. The one-to four-year-old plants have got rust badly [we confirm this from a personal inspection of a few leaves], and if sufficient rain does not fall within ten days about half a crop may be anticipated. Lavender is an average crop.

Our German Letter.

(Special Correspondence to the "C. & D.")

Vagaries of Plant-collecting.—A by-law was recently issued in Bavaria forbidding the pulling-out of certain protected plants with their roots, an exception being made in favour of teachers and students of natural history and of members of societies devoted to the study of natural science, who may obtain a police permit to pull out, with their roots, any of the specifically mentioned plants which are otherwise to be protected. Now, a German pharmaceutical apprentice has to present at the Assistants' examination an herbarium collected by himself, and the question immediately arose: Is an apprentice or a qualified pharmacist entitled to pull up these plants with their roots; in other words, does he belong to the class of "natural scientists" who are permitted to do so? A wise Government has decided that as pharmaceutical apprentices are legally required to make a collection of plants, they have the right to pull up even protected plants, but they must be provided with a certificate made out by the owner of the pharmacy in which the apprentice is engaged, and countersigned by the district medical officer. On the other hand, owners of pharmacies have not this right, and if they wish to pull up protected plants with their roots they must either obtain a special permission from the Government, or the ardent qualified pharmaceutical botanist (and owner) must join a society devoted to the study of natural science before he can do what his apprentice is entitled to do!

The German Apotheker is now being appealed to as a worthy exponent of the practical application of the policy of peaceful penetration—viz., to preach the gospel of Germany's greatness. The "Pharmazeutische Zeitung" gives prominence to a contribution from a Mr. Theodor Ling, who, writing from Ghum, Darjeeling, British India, heaps scorn on his country's policy of giving way before England in the Morocco crisis and in the matter of the Bagdad Railway. The only persons who uphold the prestige of Germany abroad, he says, are the German merchants and, in the second line, German doctors and pharmacists, the latter being even more important than the doctors, since the pharmacist is not only a professional, but also a tradesman, and much of the German goods sold abroad owe their sale to the efforts of German pharmacists. Further, the German pharmacist, so the writer has found in his wide experience, who is in business in a foreign country is very highly respected by his foreign customers everywhere. "This is due to the fact that abroad it is generally accepted that in scientific matters Germany marches at the head," and the foreign public have come to regard the German pharmacist as being usually more competent, more thoroughly and more "earnestly" grounded in his professional studies than his French, English, or Italian *confrères*, although the pharmacies owned by the latter may be larger and appear more elegant. Since the German pharmacist is specially qualified to uphold Germany's prestige abroad, and thereby increase Germany's influence and also the sale of German goods abroad, the author urges that more pharmacists should emigrate to open businesses abroad.

DURING 1913 the imports of copper sulphate into Vigo, Spain, amounted to 1,149 tons, valued at 22,874*l.*, compared with 1,717 tons, valued at 35,733*l.*, in 1912.

Assistants I have Known.

From Twenty Years' London Experience.

DURING the twenty years that I have been a senior in London the number of assistants who have passed through my hands is considerable, and a few incidents concerning them stand out in my memory. A Yorkshireman distinguished himself one day by volunteering to undertake the painful task which is sometimes thrust upon a poor chemist—that of poisoning a cat. Why he did so I do not know, unless he mistook pussy for a Yorkshire terrier; but our friend proceeded first to tie a string round the cat's neck. Naturally objected, and promptly slipped the noose. What a time the remainder of the staff had catching that cat, and it was a long time before the "would-be hangman" heard the last of it!

Another North-countryman had a somewhat different experience. He and I were alone in the shop one dinner time, when suddenly he came and gripped my arm, and with staring eyes and white face said, "I've swallowed 1½ oz. of spirit of chloroform!" "What on earth have you done that for?" I asked, and reached for the "Extra Pharmacopoeia" to find out the antidote for chloroform poisoning. He told me he meant to take chloroform-water and absent-mindedly poured out from the wrong bottle. After a moment's reflection, I comforted him with the thought that 36 minims of chloroform would probably do him no harm, seeing that it was counteracted by so much spirit. Happily, it had no worse effect than a very ho stomach he complained of.

On one of my weekly half-holidays I was taking a walk in a side street near to the shop, when our porter with a scared look came up and informed me that Mr. X. had taken 2 grains of strychnine! "Where is he?" I asked. "Over in the doctor's." So was I, in less time than it takes to tell. Poor Jock! He was a pitiable sight, indeed, just in the throes of an emetic of warm salt-and-water administered through a stomach-tube. After the doctor had finished with him I escorted him back to the shop, reelin and staggering as though the worse for drink, looking and feeling washed out, as he had every reason to be. After a rest and a hearty tea to replenish the aching void, I resumed work a sadder and wiser man. It transpired that he had done a foolish thing: weighed out two-fifths of grain of strychnine on one scale, and, before using the for the prescription he was dispensing, he weighed some sod. bicarb. on another scale, the latter for himself for indigestion, then he tipped the contents of the wrong scale pan into his glass. Jock had the cold shivers at the sound of the word strychnine ever after, while the sight of a stomach-tube was almost more than he could bear.

On one occasion we had a young Welshman giving temporary help. Evidently he had been used to a quick, easy-going, country business, and our little rushes of customers were rather disconcerting to him. One Sunday I relieved the man on duty for an hour during tea-time. When the regular assistant returned from his repast I opened the shop door, and to his surprise found he could hardly get in; there inside was quite a crowd of people, all talking to each other, and wondering where the chemist had got to. Hurrying to the back of the shop, my friend found the young Welshman calmly sitting behind the dispensing-counter. Angrily inquiring why he was sitting there instead of serving the customers, he was told, "One of them asked me for something I couldn't find, so I thought I'd give 'em a rest." He himself had very little rest until the shop was cleared!

A chemist's life is not without its little mishaps and dangers, but even these have their humorous side sometimes; as, for instance, when, on a terribly hot summer afternoon, I was serving in the front shop, when I heard a tremendous report from the laboratory at the rear, at a moment afterwards saw one of our apprentices rush down the stairs into the shop. I ran back to see what had happened, but was instantly repelled, and almost blinded as choked by ammonia fumes. In another instant all the staff and customers were literally driven into the street for their breath. Then the fun began! First one, then another customer came along, and proceeded to the door, but not one inch inside; out would come their pocket-handkerchiefs and a look of pained surprise appeared on their faces. I realised the "funny" side of it afterwards, we were all breathless at first; but something must be done, so one of us managed to rush in (running with his head low down) to escape the fumes as much as possible) and stopper-up the offending bottle. After a bit we all returned.—(205/30.)

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" J. G. B. Plant, Wigan. " P. A. Wallace, Ashton.

These constituted 100 % of the candidates, and all passed at their first attempt.

MINOR.

Mr. J. E. Biltcliffe, Barnsley. Mr. R. Naylor, Bolton.
" F. G. Boden, Mossley. " S. Quinn, Oldham.
" J. Eaton, Kendal. " E. N. Swift, Blackpool.
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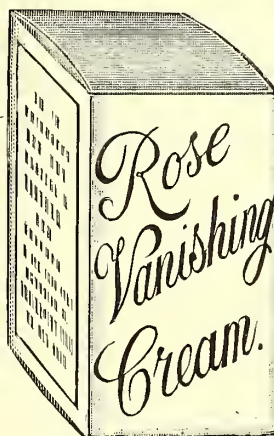
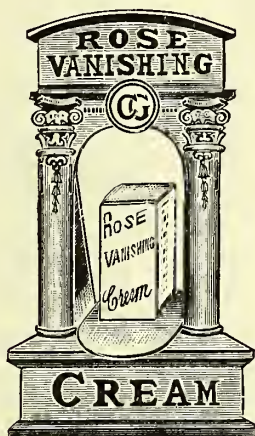
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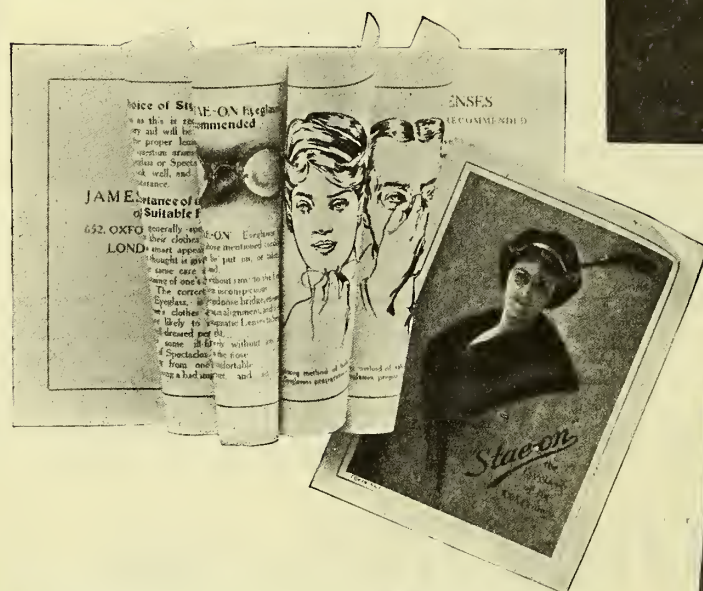
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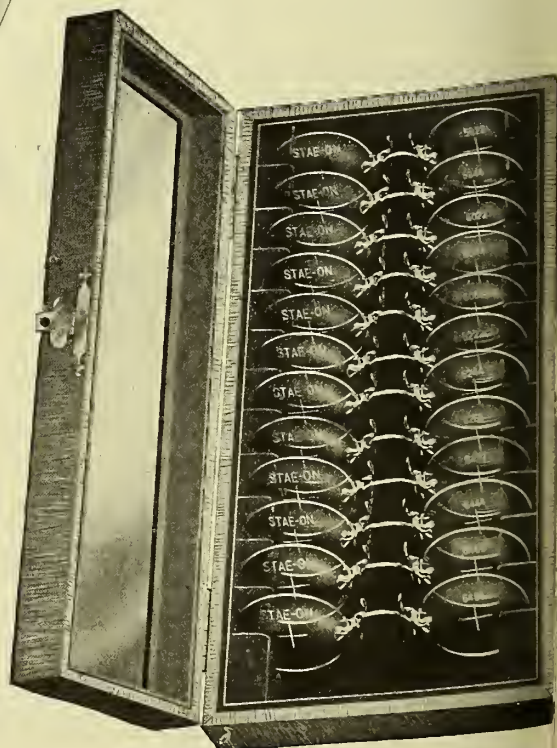
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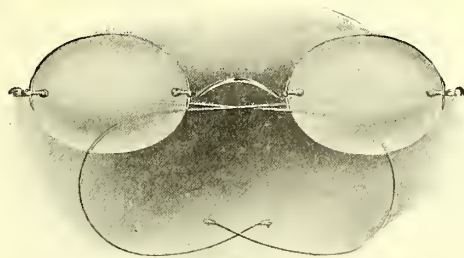


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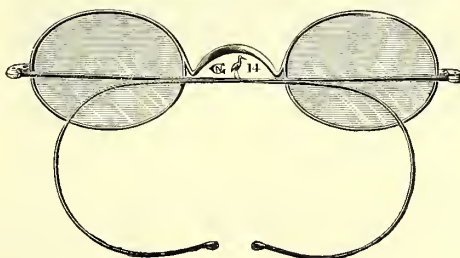
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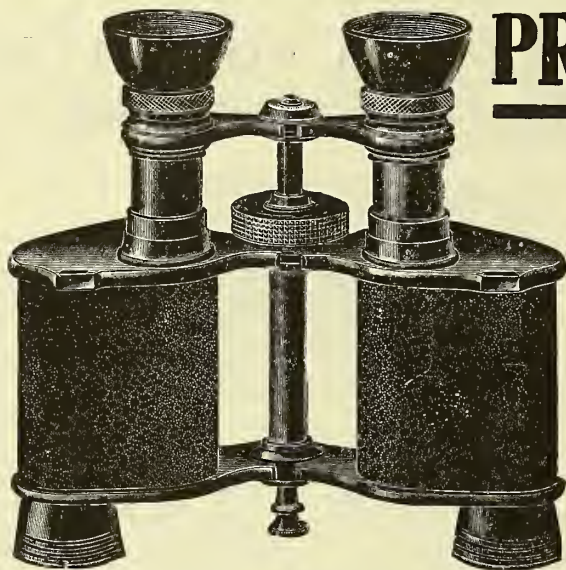
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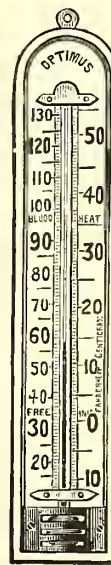
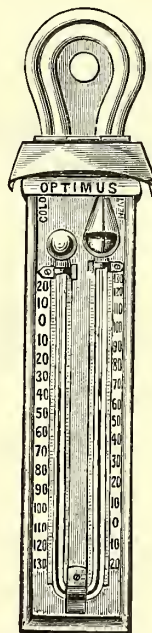
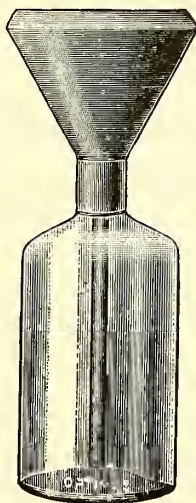
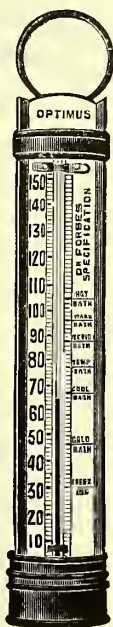
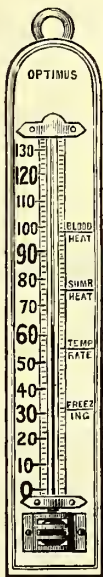
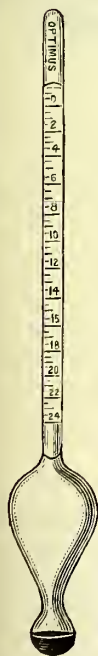
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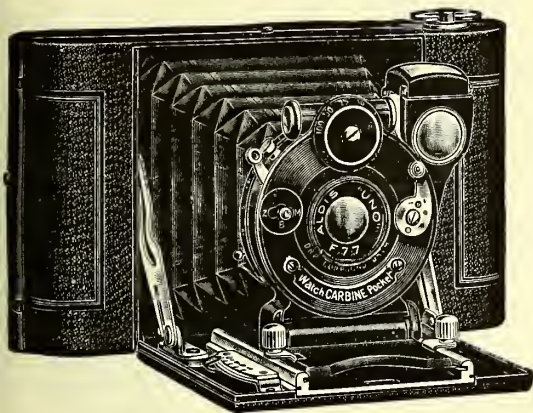
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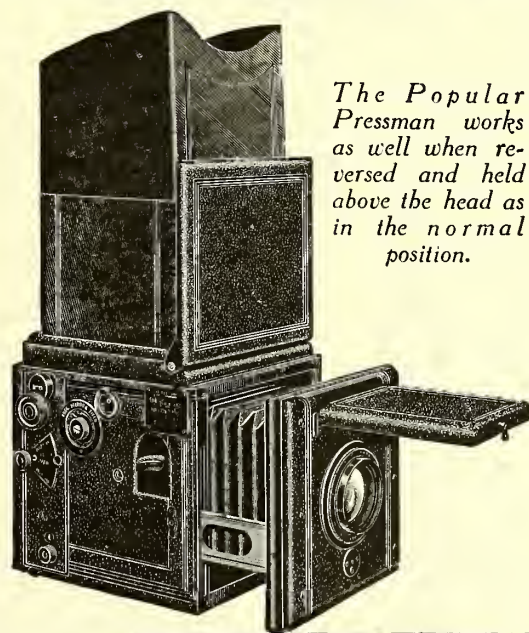
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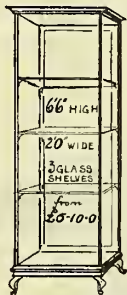
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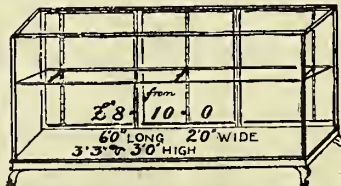
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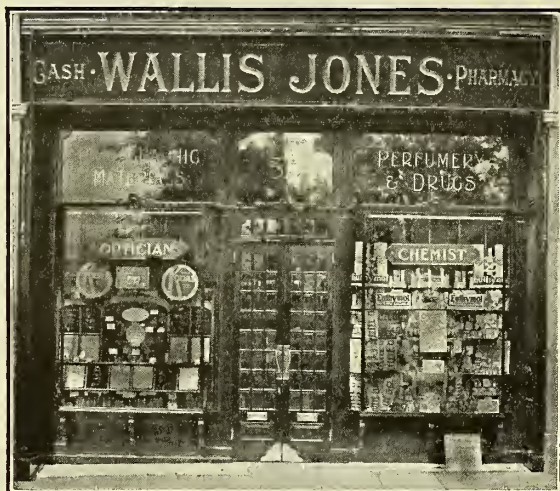
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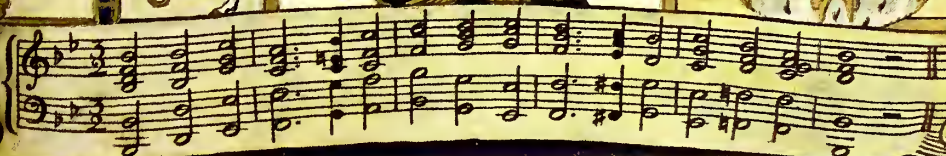
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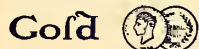
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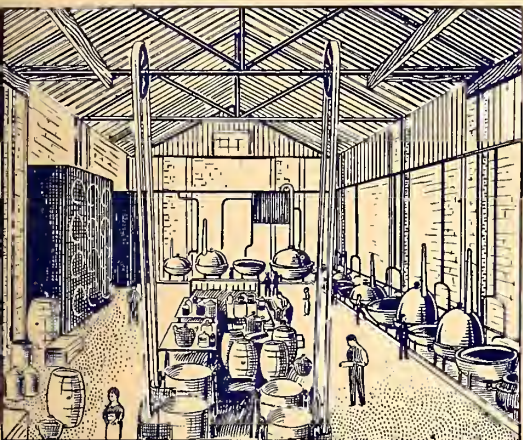
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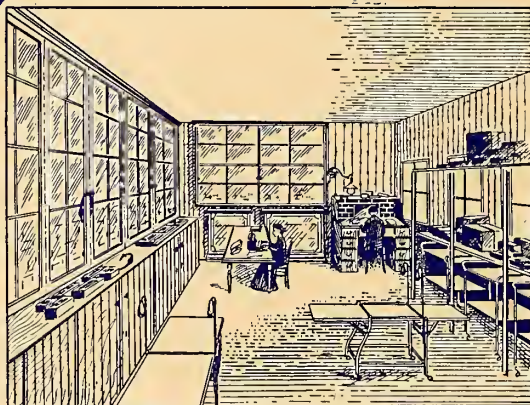


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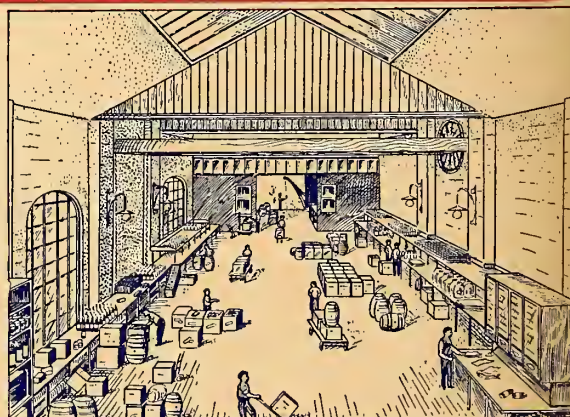
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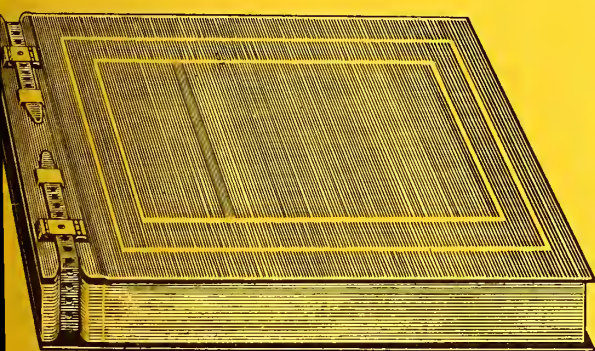
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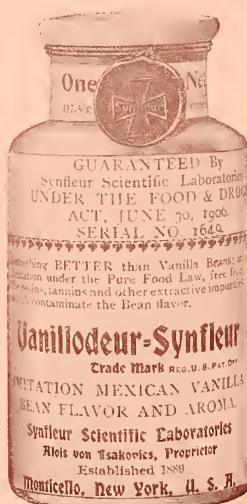


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HANNAH'S REMEDIES

Sworn Declaration

My wife and I have lost five infants in succession through what is commonly called Black Jaundice. The sixth, when five days old, was in a condition as bad as any of our previous children, and we did not expect him to live. With the five previous children we spared neither trouble nor expense in the matter of doctors or remedies. With this last child we were strongly recommended to try Hannah's Nursery Remedies. We did so with *astonishing success*. This child became quite cured, and is now in perfect health. In our opinion, Hannah's Nursery Remedies are of indescribable value, and we urge all those in charge of infants *never to be without them*.—Signed, J. W. VANNIEKERK, Elandsport, Amersfoort, 16/1/1911.

Sworn to before JOHANNES P. KLEYNHAUS, Esq., J.P.

This is one of many similar Testimonials received.

Statistics

Knowing how successful my Remedies were, curiosity urged me to ascertain the statistics for births and deaths for Amersfoort and district. As a result of my inquiry, Mr. JOHANNES KLEYNHAUS, Resident Justice of the Peace, looked through the Register kept at the Court House and supplied me with the following information, viz. :—

From 1st April 1909, to 31st December, 1910—Births, 258. Deaths, 70.

For the corresponding period previously, viz. :—

From 1st April, 1907, to 31st December, 1908—Births, 249. Deaths, 105.

This shows that for the first twenty-one months of my residence in Amersfoort the death-rate of the town and district was reduced by no less than 33½ per cent. The reduction was almost entirely in the infant mortality. As my Nursery Remedies are used by approximately 90 per cent. of the families in Amersfoort and district, I attribute the decreased death-rate, rightly or wrongly, to the merits of my Remedies.

THOMAS HANNAH.

Sworn Declarations

I, Gert Uys, of the farm Vaalbank, Amersfoort, district Wakkerstroom, Transvaal, farmer, hereby declare for all whom it may concern, namely: That about the beginning of this year my wife became stricken with a form of paralysis known as Paralysis Agitans (or shaking palsy), and we called in the services of a doctor. His treatment was unsatisfactory. We then had resort to another doctor, and his treatment was equally unavailing. We next sought the assistance of Mr. Thomas Hannah, Apothecary, Amersfoort, and within three months he cured her completely. This malady is generally considered incurable, and we and our friends were much surprised not only at the cure but also at the speediness of it.—Signed G. J. UYS.

Sworn to before A. KUIT, J.P., 30/10/1911.

For general information, I, Louis Potgeiter, of Grootbock, in the district of Utrecht, Natal, farmer, hereby state as follows:—My wife caught a severe cold which settled on her stomach, causing almost continuous retching and diarrhoea. We had the best doctor in the district, but his remedies were unavailing. When this condition had lasted three days and nights without rest or nourishment, and inflammation had far advanced, we gave up practically all hope of her recovery. Thinking death inevitable, relatives and friends were notified and wired for, with the consent of the doctor in attendance. As an afterthought, apparently, we sent for Mr. Thomas Hannah, Apothecary. He came and administered his Remedies, spending about five hours at the bedside, during which time my wife enjoyed a sound refreshing sleep, lasting about an hour and a half, the first that she had had during that anxious time, and when she awoke the improvement was remarkable, the crisis had evidently been passed, and Mr. Hannah pronounced her out of danger. She subsequently recovered rapidly. I owe him an everlasting debt of gratitude.—Signed, L. J. POTGEITER, before G. J. SHAW, J.P.

I, the undersigned, Jerrie Rheeder, of the farm Fyfhoek, Amersfoort, district Wakkerstroom, Transvaal, farmer, hereby declare for general information as follows, namely: That during the year 1909 my wife became seriously ill, and we called in the doctor, who visited her three times and gave medicines. His treatment was unsuccessful. We then called in another doctor who diagnosed the malady to be appendicitis, and advised an immediate operation. We then consulted Mr. Thomas Hannah, Apothecary, who expressed the belief that an operation was unnecessary, and that he could promise a cure by means of his Remedies. He furnished a supply, which was repeated once, and these effected a complete and speedy cure. My wife has been in the best of health ever since. The combined charges of the doctors amounted to about £40. The Remedies furnished by Mr. Hannah cost us 24/—Signed J. J. RHEEDER. Sworn to before G. LOMBARD, J.P.

These are Specimen Testimonies before the Circuit Court in *THE MATTER OF REX v. HANNAH.*

The LORD CHANCELLOR said that Mr. Hannah had put forward his contentions very ably, but their Lordships were unable to advise his Majesty to accord him special leave to appeal. With regard to the sentence imposed by the Court, it was not their duty to interfere, but it seemed to them a very heavy one in all the circumstances, and it might perhaps be possible for the Government of South Africa to consider it with a view to its mitigation.—(*Times*, London.)

OPEN LETTER

O CHEMISTS IN THE BRITISH EMPIRE

GENTLEMEN,

I would respectfully take the liberty to suggest to you that we form a Limited Liability Company, with a Capital of, say, *One Million Pounds Sterling*, more or less, for the preparation and sale of Remedies in daily or general use.

To form a representative Board of Directors, selected from representatives of the foremost Drug Houses in England, with sub-directorates in each continent of the world, the sub-directorates to consist naturally of the best local talent.

The Remedies which would be required for such a scheme would, of course, have to be carefully devised.

I have devoted twenty-five years of my life to the elaboration of such a set of Remedies, and with all confidence I submit that the Remedies now known as Hannah's Remedies are in every way fitted for the purpose, having the necessary requirements.

All the rights, title, and interests in them I am prepared to make over to a Corporation such as I have suggested.

It is claimed for them that they stand second to none in merit, as can easily be proved on investigation.

The margin of profit provided for is sufficient to satisfy all requirements. Should a majority of chemists participate in this venture the problem of the stores will have been satisfactorily settled, for then the storekeepers would act as salesmen to chemists.

This scheme need in no way hamper or interfere with the usual course of business. It is an independent concern. Chemists and storekeepers will find that it pays to handle Hannah's Remedies.

A great deal of economy is possible in advertising a group where the one article advertises all the others as well as itself at one and the same time.

The British Drug Houses, Ltd., have stated their willingness to manufacture and prepare these Remedies, so that they will be assured of every facility for success in that direction.

It is heartily and earnestly desired that chemists throughout the Empire shall give this proposal fair consideration, and after mature reflection to record their respective opinions or suggestions by sending to "Director," Hannah's Remedies, c/o "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Any information required, would, of course, be cheerfully furnished.

A period of three months has been set down as a suitable time to afford chemists in distant parts of the Empire an opportunity to record opinions or suggestions, or of coming in any way identified with the matter.

Every chemist is hereby heartily invited to participate—"Unity is Strength."

Yours respectfully,

THOMAS HANNAH.



SOUTH AFRICAN JUSTICE

THE

Mystery Explained

(TABLEAUX VIVANTS)

CONTENTIONS

of Mr. THOMAS HANNAH, Apothecary, Chemist and Druggist, of Amersfoort, Transvaal, before the Judicial Committee of the Privy Council sitting on May 26, 1914, and consisting of the Lord Chancellor (Viscount Haldane), Lord Moulton, Lord Parker, Lord Sumner, and Sir Joshua Williams, namely:—

1. That Section 39 of Ordinance 29, 1904, of the Transvaal covers only fraudulent practice, and nothing else.
2. That it does not prohibit bona-fide practice, otherwise it would wipe out of existence all other schools or systems of medicine or healing other than allopathic or the orthodox system.
3. That the dictum that nothing is unlawful until prohibited by Act of Parliament in express terms being *unimpeachable*, it is not unlawful for unqualified or unregistered practitioners to practise.
4. That Section 39 does not define the functions of the various callings enumerated therein: that the functions of the various callings are not defined in any law extant, and that therefore we cannot allocate any given act to any particular calling until a name or title shall have been assumed, and hence we cannot *prove* that a person has practised any specific calling if he has not assumed a name or title indicating which particular calling he is practising.
5. That every practitioner is known by his degree or diploma to enable people to distinguish the quality or kind of his education or training.
6. That a "Chemist and Druggist" is a "General Medical Practitioner," for he practises Pharmacy, Medicine, Surgery, Dentistry, Optics, etc., and has done so for succeeding generations, and from time immemorial, there being no law to the contrary, and the dictum that nothing is unlawful until prohibited by Act of Parliament in express terms being unimpeachable.
7. That it is for the Legislature to make or amend law. If it is desired to allocate certain functions to any particular calling, and to deprive others of certain privileges, it will be necessary to legislate to that effect. We cannot expect the Courts to do so for us.
8. That there is nothing in the Ordinance to prevent anyone whomsoever from practising Medicine, Dentistry, or Pharmacy, and accepting payment, provided he does not assume misleading names or titles.
9. That the Courts will not enforce payment until a practitioner is registered, which means, "*legally and officially recognised as qualified*."
10. That the Ordinance is definite and equitable, *giving no class of practitioner an undue advantage over another*.
11. That Section 39 prevents the false assumption of names or titles, and thus safeguards the public against fraud from both qualified and unqualified persons, as far as possible.
12. That the offence of Fraudulent Practice is "one offence" only, and punishable by a maximum penalty of £100 or six months' imprisonment, and that this penalty is not cumulative.
13. That the prosecution was bound to prove the charges against me.
14. That there was no *proof* before the Circuit Court that I had practised as a doctor, dentist or chemist, as charged in the indictment.
15. That the indictment stated no offence.
16. That the Act enacts, to put it shortly, that there should be a Register, and that persons who can get on that Register must have certain qualifications.

These Contentions afford a lucid rendering of the much vexed question of Medical, Dental, and Pharmacy practice, and is calculated to make easy the passage of the long delayed Bill through the Union Parliament.

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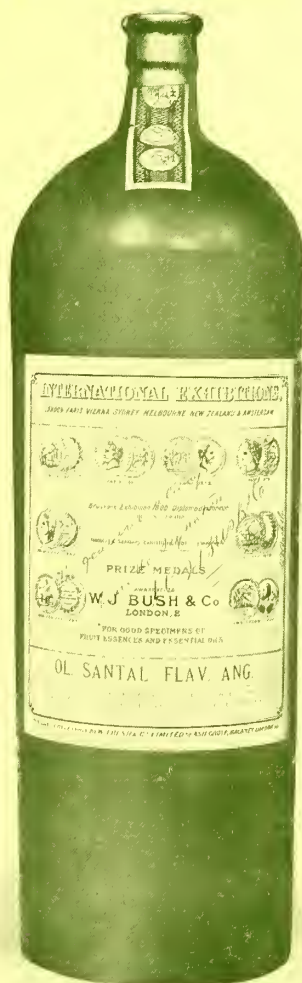
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THE SCENT OF AN OLD ENGLISH GARDEN

POTTER & MOORE'S
FRAGRANT OLD ENGLISH LAVENDER WATER,
DISTILLERY:—MITCHAM, SURREY.

Sole Proprietors:—W. J. BUSH & CO., Ltd., ASH GROVE, HACKNEY, LONDON, N.E.

POTTER & MOORE'S

Fragrant Old English Mitcham Lavender Water.



IN WHITE OR AMBER BOTTLES,
FITTED WITH SPRINKLERS.

3/9 size...33/- per doz.

2/6 size...22/- per doz.

1/6 size...13/- per doz.



IN CUT STOPPERED BOTTLES.

5 oz. size...30/- per doz.

10 oz. size...54/- per doz.

20 oz. size...96/- per doz.

POTTER & MOORE'S

FRAGRANT

Lavender Bath Salts.

Excellent for softening hard water.

Gives a delightful perfume in the bath and the real fragrance of the flower.

2/- size ... **16/-** per doz.

4/6 size ... **36/-** per doz.



POTTER & MOORE'S

Fragrant Old English Lavender Sachet.

The
Best
in the
World.



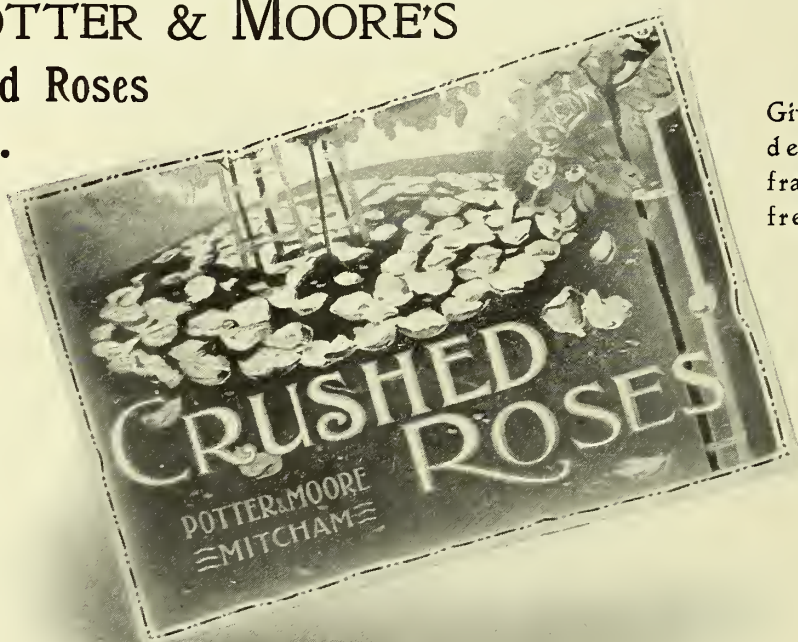
48/-
per gross.

Sample dozen
post free for
4/-

POTTER & MOORE'S

Crushed Roses Sachet.

48/-
per
gross.



Gives off the
delightful
fragrance of
fresh Rose
Petals.

SOLE PROPRIETORS: **W. J. BUSH & CO., LTD.,**

DISTILLERY:
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OFFICE AND WORKS:
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BRANCHES IN OVER 120 OTHER TOWNS.

SHOP MODERNISERS.

94 YEARS' EXPERIENCE.

MADE IN ALL
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ON APPLICATION.

NOTE:

We have on order
50 of these cases for one
firm at the present time.

THE NEW "CRYSTAL CASES."

THE "ALL GLASS" SHOWCASE.

NO WOOD NOR METAL BARS USED.

THE "CRYSTAL CASE" IS THE BEST AND MOST ATTRACTIVE SHOWCASE ON THE MARKET.

The "Crystal Case" has a very brilliant appearance when dressed, and there are no bars to
obstruct the view. The cases are made in all shapes and sizes. Send for Catalogue.

ADVICE AND DESIGNS FREE.

INQUIRIES INVITED.

Chemists' Shopfittings.

**Attractive and Up-to-Date
AT ABSOLUTELY LOWEST PRICES**

You can pay more, but you can't get better value. Send me your requirements. I shall be pleased to send to any Chemist estimate and rough sketches free. Over thirty years fitting Pharmacies.

*The Cheapest Manufacturer of
Chemists' Shop-fittings.*

GEORGE COOK,

*The CHEMISTS'
Working Shopfitter,*

CATHERINE ST.,

CITY ROAD,

LONDON, E. C.

(Near Old Street Tube Station.)

Testimonials as above from every customer.

A few of many testimonials
received from my customers
prove that you

CAN'T DO BETTER.

Grayshott.

Dear Sir,

The complete fittings you have put in for me are very satisfactory and have been much admired, the Dispensary Screen in particular, while your promptness in executing the whole work was surprising.

Yours truly,
R. J. C.

Cavan, Ireland.

Dear Sir,

I have received fittings all safe, and I must say I am well pleased with them, you certainly turn out your work in first-class order, and if I can in any way recommend you I shall be pleased to do so.

Yours faithfully,
J. R.

Rothbury,

Dear Sir,

We unpacked fittings yesterday and have much pleasure to say we are very pleased indeed with them; nothing was broken, and each article was more than you claimed for it in the way of finish and smartness. If at any time you should require our name in your business we hope you will have no hesitation in using it; as to any inquiries we may have we shall be glad to give a warm testimonial to the manner in which you execute your orders.

With again thanks,
Yours faithfully,
FARRAGES, LIMITED.

Haywards Heath.

Dear Sir,

I am very pleased with the way you have fitted up my shop; there has been no delay, and I congratulate you on the way your workmen have carried out your instructions with competent ability. With many thanks.

I am, yours truly,
S. O. GREENHILL

Hastings.

Dear Sir,

I write to tell you how pleased I am with your work you have done for me. I feel sorry I did not have it done before. It adds so much to the comfort in arranging one's stock.

Yours truly,
J. WILLIAMS.

Window
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Silent
Salesman
Showcases,

Plate Glass
Showcases
of every
description,

Dispensing
Screens,

Drug-fittings

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Cases,

Desks,

Plate Glass
Front
Serving
Counters,

Drug
Drawers,

Counter
Drawers.

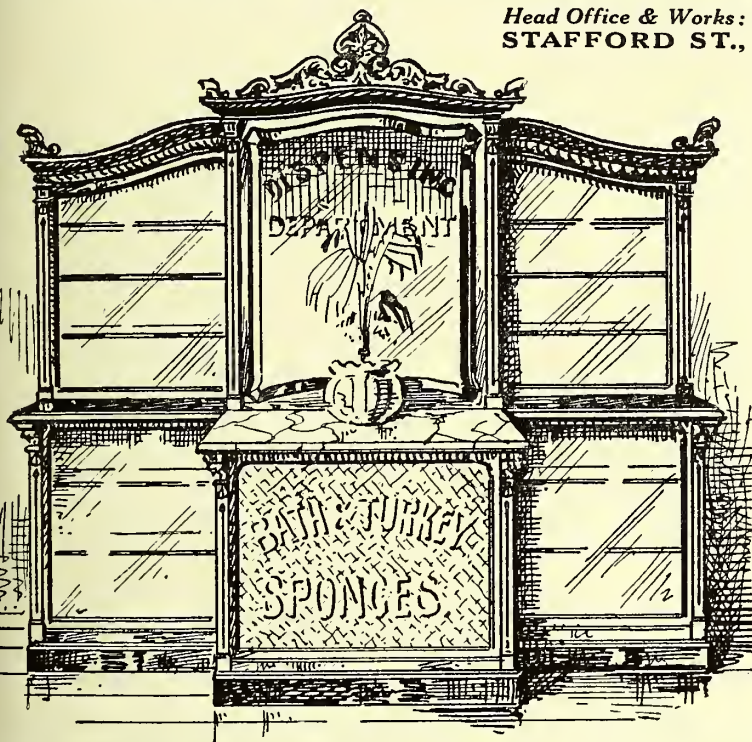
Shoprounds,
&c.

**YOU CAN'T
DO BETTER.**

HARRIS and SHELDON, LTD.

Head Office & Works: **BIRMINGHAM.**
STAFFORD ST.,

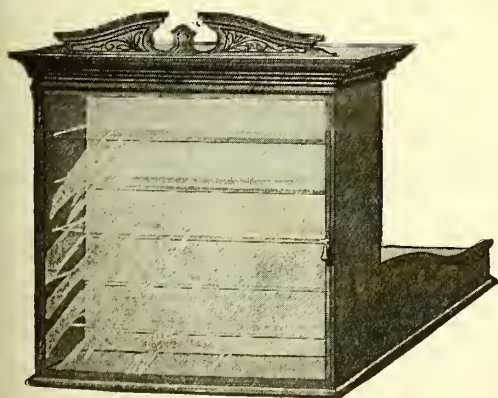
LONDON: 70 Wood St., E.C.
MANCHESTER: 38 Thomas St.
GLASGOW: Springfield Court.
DUBLIN: 15 Wicklow St.



Surely YOU realise that the best form of Advertising is to improve your SHOP FRONT and Interior Fittings? It arrests Trade on your own doorstep—
Just where you want to get it!

SHOP FITTERS

D. GRANT SHOP-FITTER & PATENTEE



COMBINATION DESK AND SHOWCASE

Solid Polished Mahogany, plate glass, mirror back, five adjustable shelves. 24 in. wide to 27 in., £3. 30 in. wide, £3 5s. od.

COUNTER CASES FOR SALE

Best quality, only 6 months in use at Glasgow Exhibition. Best British Plate Glass. Solid Polished Mahogany, plate mirror folding doors, spring catches. All repolished equal to new, 10s. 6d. per foot run, packed and put on rail.

Set of first-class Chemist's drawers with labels and knobs complete. Modern, 2s. 10d. per drawer. Also 672 cigarette cases, 15s. each.

ST. JAMES' PLACE, EDINBURGH.

MAKE MORE MONEY

by installing



a
"British"
Check-Printing
Till.

A Pharmaceutical Chemist writes after 2 years' use:

"I have now had your Ticket-issuing Till in use upwards of 2 years, and must say I am delighted with it. I find it not only a most effective check on the takings, but a wonderful advertising medium and business promoter, besides being an ornament to the Pharmacy. I might say most customers insist on having a check, and the system is appreciated.

My sales have increased considerably, which I attribute to the Till.

I have had three other makes but yours excels them all.—J. & T. (M.P.S.)"



Send for full particulars.

Will post them by return.

5 Years' guarantee with every Till.

Prices from 32/6 to £11/11/-

THE BRITISH MACHINE CO., LTD.,

Patent Till Works, HALIFAX.

ALPACA JACKETS

at 4/6, 5/6, 7/6

ARE THE MOST SUITABLE FOR

CHEMISTS

during the hot Summer months. They are cool and comfortable, light in weight, and smart in appearance. All sizes are stocked, ready for immediate wear, from 34" to 42" chest.

OVERALL CLOTHING

for all business and trade requirements is a very special feature.

Write for full descriptive list to—

Gardiner & Co. (The Scotch House) Ltd.

Head Depot: CORNER OF COMMERCIAL ROAD, LONDON, E.
West End: CORNER OF CHAPEL STREET, EDGWARE ROAD, W.

New Cross: DEPTFORD BROADWAY, S.E.

Clapham Junction: 28 TO 32 ST. JOHN'S ROAD, S.W.

Woolwich: 33 TO 37 HARE STREET.



HAVE YOU
SEEN OUR

NEW POSTER STAMPS?

SEND FOR SAMPLES.

Thomas Waide & Sons

CHEMISTS' PRINTERS,

KIRKSTALL ROAD,

LEEDS.

Save Your Clothes!

Keep them from Chemical Stains.



Fig. 1. THE COMBINATION OVERALL, in Brown, with detachable buttons, 6/6 post paid.

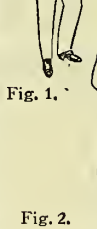


Fig. 2. THE COVERALL COAT, in Khaki, detachable buttons, 45 in. long, 6/6 post paid.

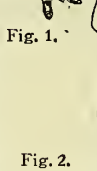


Fig. 3. SERVICEABLE BLACK APRONS, 1/6 post paid.

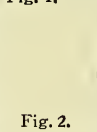


Fig. 4. JACKET and TROUSERS SUIT OVERALLS, in Brown or Blue, 7/- post paid. Jacket or Trousers separately, 3/6 post paid.

Fig. 2.

Lilywhite, Ltd.
Halifax, England.

Ambulance Outfits

POCKET SETS, suitable for Boy Scouts, Cyclists, Motorists, etc., packed in neatly enamelled tin Boxes to retail at 1/- and 1/6 each.

JAPANNED TIN BOXES, suitable for Factories, Coal Mines, Emigrants, etc., to retail at 10/6 and upwards.

STRETCHERS at keenest prices.

HALL FORSTER & CO., Ltd.,
NEWCASTLE-ON-TYNE.



NEW Advertising IDEAS

For increasing the
CHEMISTS' & DRUGGISTS' TRADE.

- ¶ Let us help you make that new line of yours a success.
- ¶ We can assist you with suggestions and samples.

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GENERAL
PRINTERS

LETTERPRESS
LITHOGRAPHIC
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Telephone; CITY 65.
Telegrams; FORSHAPCO
Westcent, LONDON. . . .

EST. OVER 70 Years.

FORD, SHAPLAND & Co

Great Turnstile, HIGH HOLBORN, LONDON, W.C.

WORKS: WHETSTONE PARK.



**My "SOMETHING DIFFERENT" Advertising.
What it has done for others.**

"The distribution of your booklets is now an accomplished fact. I assure you I am highly pleased with the result."
"A record year," writes a client at expiration of yearly contract with me.

These letters and many others can be seen by appointment. Why don't you order my Booklets, Folders, Letters, &c.

MAIL ORDER BUSINESS MY SPECIALITY.

Write now on business heading for **FREE BOOKLET.**

F. A. DEGEN, F.I.S.A.C.

(The Chemists' and Druggists' Ad. Expert),
c/o The Chemist and Druggist, 42 CANNON STREET, E.C.

**ZEAL'S PATENT
CLINICAL THERMOMETER
The "REPELLO"**

Requires no shaking down. *Guaranteed Accurate.*
A 30-Second Pushed back in an Instant.
Send for list, post free.

Good Selling
Lines for
Chemists.

Showing flattened
bulb at end.



G. H. ZEAL, 82 Turnmill St., LONDON, E.C.

Wholesale Manufacturer of

CLINICAL THERMOMETERS,

A SELECTION OF 50 KINDS.

Established 1888.

Telephone No. 12438 Central.

Do You Want Australian Trade?

If so, write at once to Mr. F. Longmore, or make
an appointment with him at the offices of

H. B. SLEEMAN & CO., LTD.,
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AGENTS FOR

Francis Longmore & Co., Bourke Street,
MELBOURNE.



SATISFIED CLIENTS
IN ALL PARTS.

To INCREASE YOUR TURNOVER AND MODERNISE YOUR STORE

Write the Specialists,

A. EDMONDS & Co., Ltd.

CONSTITUTION HILL,
BIRMINGHAM.

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"Wire: Edmonds, Shopfitters, Birmingham."

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GREAT WESTERN RAILWAY.

Within the extensive districts served by the Great Western Railway Company's system of upwards of 3,000 miles of railway, there are in various localities considerable areas of available land admirably situated and otherwise suitable for the establishment of Works, Factories, etc., in connection with different kinds of Industrial undertakings. These sites are within easy access of some of the principal Ports, Coal and Ironstone Fields, and Iron and Steel producing centres.

Information regarding suitable sites, siding facilities, conveyance rates, etc., will be readily afforded on application to

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FRANK POTTER, General Manager.

Miss E. Rance, Pharmacist,

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Arrangements are made for Students to reside at this address



CELLULOID POULTRY RINGS

For distinguishing the different ages and strains of poultry.

MADE IN VARIOUS COLOURS.

GREAT DEMAND.

Ask for Samples and Prices.

MILLARD BROTHERS, LTD.,
123 HOUNDSDITCH, LONDON, E.C.

For
**FOUNTAIN
PENS**
and all Pens
the Best.

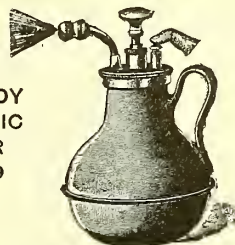
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Makes
Writing
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Proprietors:

Bewley & Draper, Ltd., Dublin.

CHEMISTS WHO SELL INSECTICIDES
ARE MOST FAVOURABLY PLACED
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EVER-READY
PNEUMATIC
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PRICE
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EVERY **ENOTS** SPRAYER

PLACED WITH A CUSTOMER IS A PERMANENT
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WRITE FOR OUR LIST.

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CABLES BRANCH EXCHANGES

TELEGRAMS.
"ENOTS,"
BIRMINGHAM.

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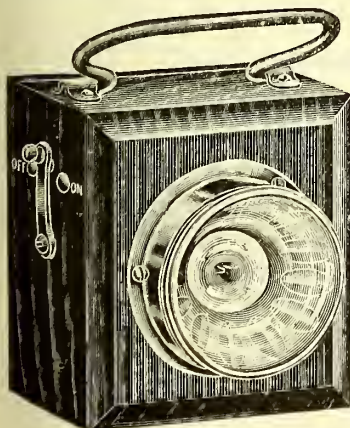
Benton and Stone Ltd.
"ENOTS" WORKS,
BIRMINGHAM.

THE

"MULTIFIL" HAND LAMP

Prov. Patent.

British Made.



NOTE SMALL
SIZE OF CASE.
3½ x 3 x 2½ ins.

**35 TO 40
HOURS' LIGHT
WITH 2 ORDINARY
SIZE POCKET LAMP
REFILLS.**

THIS Electric Hand Lamp is made upon
an entirely new principle, and the re-
sults obtained are remarkably successful.
It is a Magazine Hand Lamp, inasmuch as
it is arranged to take two standard size
pocket lamp refills, and replacements can
be obtained anywhere.

An ingenious arrangement of the connections (Patent Prov.) absolutely
prevents one refill discharging itself to the other, as the action of switching on
the light parallels the refills and completes the circuit to the bulb, the action of
turning off the light also breaks the circuit between the two refills, thus preventing
any discharge of current. Whereas a refill when burning a bulb continuously
only gives at its best about **5 hours' light**, this combination of the two refills
gives **30 HOURS' LIGHT**. In ordinary intermittent use the light can be kept
on for half an hour at a time or even more to obtain 40 hours' light, viz.,
40 Hours from two pocket lamp refills. Instructions are sent out with
each Hand Lamp; the lamp can be refilled with the utmost ease.

5/9 SUBJECT TO
TRADE DISCOUNT.

CODE: "MULTIFIL"

Oak polished Hand Lamp with
two Volex Pocket Lamp Refills and
special "Osram" Bulb.

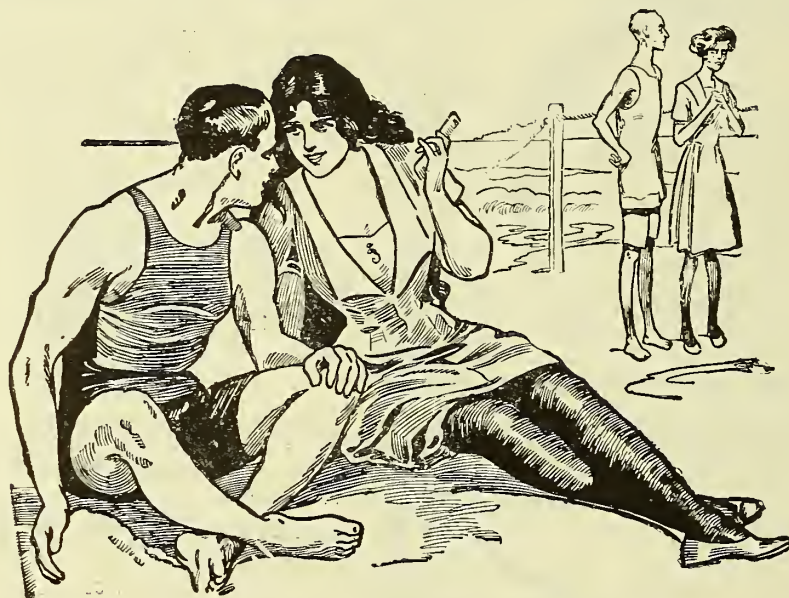
NOTE.

Write immediately for par-
ticulars of the best selling
lines in Pocket Flash Lamps,
Torches and Electrical
Novelties in immense variety.

Pocket Lamps (Cases only)	from 2/3 dozen.
Electric Flowers	... 45/- 100
"President" Hand Lamp (Cases only)	16/6 dozen.
"Director" do. do.	18/6 "
Torches (Cases only)	... 6/9 "
Electric Scarf Pins	from 6/6 "

WARD & GOLDSTONE,
(Box 14) SAMPSON WORKS,
SALFORD, MANCHESTER.

Telephone: 7083-4-5-6 CENTRAL.
Telegrams: "MULTUM, MANCHESTER."



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let it be a reminder to examine your stock of*

SARGOL

***Steadily Advertised. Steadily in Demand.
The only Preparation which makes Thin
Folks Plump and Attractive.***

SARGOL to the CHEMIST means QUICK SALES & LARGE PROFITS.

STOCK IT TO-DAY. You cannot lose on SARGOL.

We have just received from our printers a new lot of handsome showcards and booklets for counter distribution, which were designed by the ERWOOD ADVERTISING AGENCY, and which are considered to be exceptionally effective. They are now ready for distribution, and any chemist may have a supply sent him, carriage paid, free of charge on receipt of postcard asking for same.

PRICES OF SARGOL.

4/6 size ... 40/6 per doz net. 2/6 size ... 24/- per doz net.

From any Wholesale House or direct from

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Concerning the Packing of Compressed Tablets

The enormous profit on Compressed Tablets to the Retailer calls for close attention to this particular branch of the business, and with a view to co-operating with him, as is our usual custom, we are now packing tablets in Silent Salesman Outers, in the method illustrated:



This illustration depicts the method in which we pack, for counter display, ordinary tablets — we are continuously congratulated upon this excellent outer.

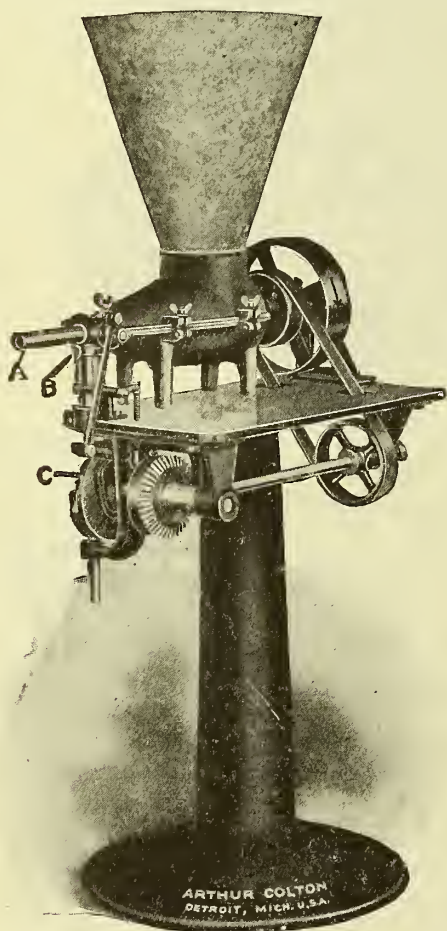
From our Price List we have selected the following illustrations of the extremely low rates we charge Pharmacists for these really very high-class preparations.

NAME OF TABLET	Per dozen Bottles of				NAME OF TABLET	Per dozen Bottles of			
	25	50	100	1000		25	50	100	1000
T123 AC. ACETO SAL. gr. v. ...	s. d. s. d. s. d. s. d.	2 6 4 0	7 0 3 6		*T72 QUININ. SULPH. gr. j. ...	2 9 4 9	8 3 5 3		
T2 ALOIN COMP. ...	2 3 3 9	6 3 3 6			*T72 QUININ. SULPH. gr. ij. ...	3 9 6 9	12 6 8 6		
T27 ANTIPYRIN. gr. v. ...	3 6 5 9	10 6 7 0			*T72 QUININ. SULPH. gr. iij. ...	4 6 8 3	15 6 11 3		
T83 'ASPIRIN' gr. v. ...	6 6 11 6	20 0 15 0			*T72 QUININ. SULPH. gr. iv. ...	5 6 10 0	19 0 14 0		
T188 'A PIRIN' gr. iv. Caffein					*T72 QUININ. SULPH. gr. v. ...	6 3 11 9	21 6 16 9		
Pur. gr. j. ...	6 6 11 6	20 0 15 0			QUININ. BISULPH. ...	same price	as Sulphate		
T13 CALOMEL gr. j. ...	1 9 2 8	4 4 1 9			*T79 QUININ. AMMONIAT. (One				
T13 CALOMEL gr. ij. ...	2 0 3 3	5 3 2 6			Tab. equals 1 drachm				
*T55 CASCARA COMP. ...	3 4 5 10	10 8 7 0			fl. tinct.) ...	3 0 5 3	9 6 6 0		
*T14 CASCARA SAG. gr. ij. ...	1 3 2 0	3 6 2 6			*T79 QUININ. AMMONIAT.				
*T14 " gr. iij. ...	2 0 3 6	5 6 3 0			½ drachm ...	2 8 4 6	8 0 4 9		
*T15 EASTON'S (equals in 30 Syr.)	2 6 4 3	7 6 4 6			*T119 QUININ. AND IRON (Quin.				
*T15 EASTON'S (equals in 60 Syr.)	3 6 6 3	11 3 7 6			Sulph. gr. ʒ. Ferri				
T135 FORMALIN. THROAT ...	2 6 3 3	6 6 4 0			phosph. gr. j.) ...	2 9 4 9	8 3 5 0		
T150 HEXAMETHYLENETETRA-					T39 P. RHEI Co. (Gregory),				
MINE gr. v. ...	2 6 4 0	7 6 4 0			gr. v. ...	2 3 3 6	6 0 3 0		
T161 MALOUREA gr. v. ...	8 6 16 0	30 6 24 0			T41 SALOL, gr. v. ...	2 6 4 0	7 0 4 0		
T24 PHENACETIN gr. v. (5/- lb.)	2 3 3 9	6 6 4 0			T131 SODII CITRATE, 5 gr. ...	2 6 3 6	5 9 3 6		
T25 PHENACETIN COMP. (Pink					For rendering the curd of cows' milk more digestible in infant feeding.				
or White) ...	2 6 4 3	7 6 4 9							
T187 PHENACETIN, gr. iv., Caf-					T44 SODA MINT (30) ...	1 3 2 0	2 9 0 8		
fein Pur. gr. j. ...	2 10 4 9	8 9 5 9			T46 SULPHONAL, gr. v. ...	4 0 7 0	13 0 9 0		
T30 POT. BROMID. gr. v. ...	2 0 3 3	5 3 2 6			T217 THREE VALERS ...	5 6 10 0	19 0 15 0		
T67 QUININ. HYDROCHLOR. gr. j.	3 1 5 3	9 5 6 0			T48 TRINITRIN, gr. ʒ. or 1-100	2 4 3 9	6 6 3 6		
T67 QUININ. HYDROCHLOR. gr. ij.	4 0 7 0	13 0 9 0			T57 TRIONAL (Bayer) gr. v. ...	7 0 13 0	24 0 18 0		
					T82 VERONAL, gr. v. (Bottles of				
					10, 12-1) ...	27 0 54 0	108 0 —		

ARTHUR H. COX & CO., Ltd., Manufacturing Chemists, BRIGHTON

COLTON'S Pharmaceutical Machinery

Power Collapsible Tube-
Filling Machine.



Complete Pill Plants.

Gelatine Coaters.

Tablet Machines.

Granulators.

Capsule Moulds.

Copper Pans, etc.

Collapsible Tube-Filling and

Closing Machines For Hand or Power.

Clip Fasteners and Clips.

General Laboratory Equipments :

Kahlbaum's Pure Chemicals.

Students' Sets for "Minor" and

"Major."

Dissecting Instruments. Stills. Microscopes.

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LONDON."

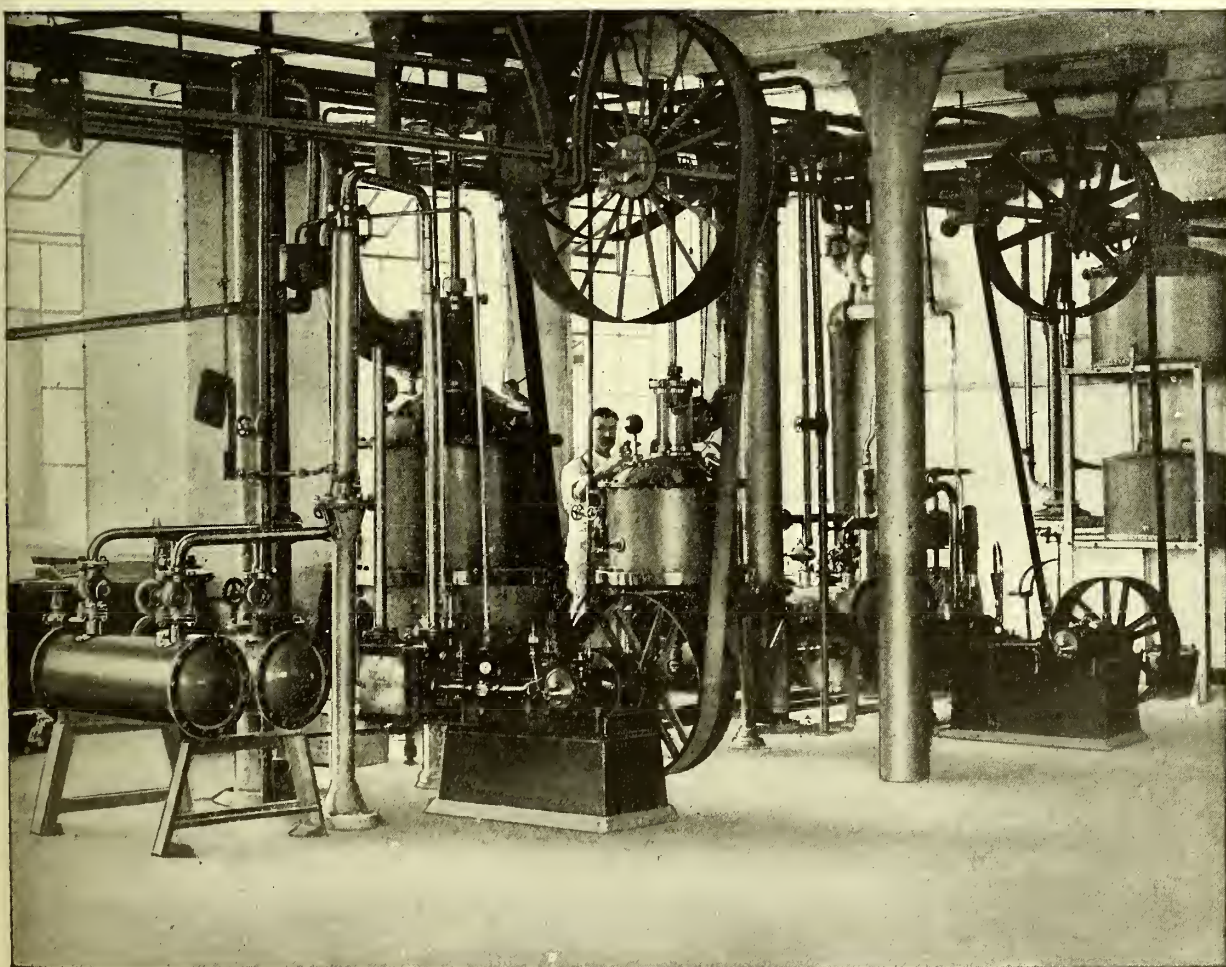
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Telephones ;
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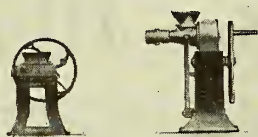
Manufacturers of Laboratory Plant.

HIGH-CLASS VACUUM STILLS

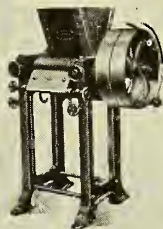


As supplied to Messrs. PARKE, DAVIS & CO., HOUNSLOW.

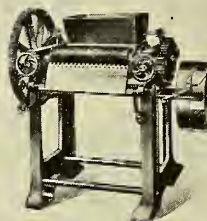
Photographed in a section of their Laboratories.



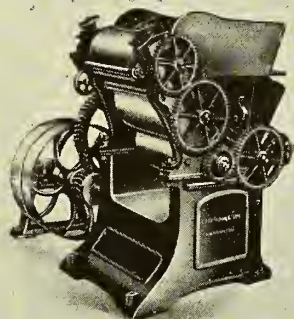
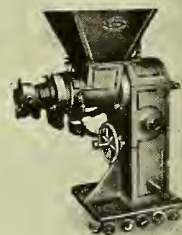
N° 1 Plant For
Experimental purposes



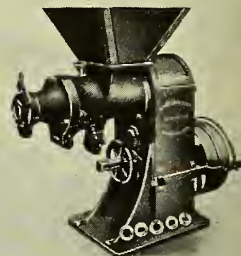
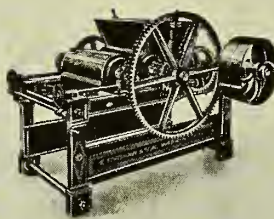
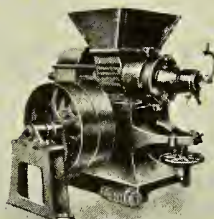
N° 2 Plant. Output
100 to 200 pounds per day



N° 3 Plant. Output
300 to 400 pounds per day.



N° 5 Plant. Output
2000 to 2500 pounds per day



N° 4 Plant. Output
800 to 1000 pounds per day.

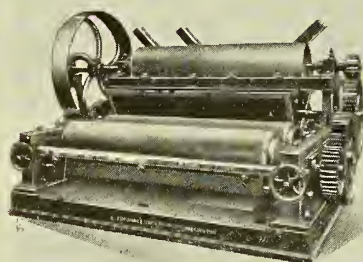
Established
1848
Telephone N° 123

E. Forshaw & Son Ltd

SOAP AND CHEMICAL PLANT MAKERS.
WARRINGTON, ENGLAND.

MILLED TOILET SOAP PLANT.

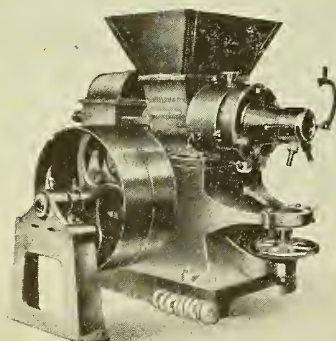
HOUSEHOLD AND LAUNDRY SOAP PLANT.
GLYCERINE EXTRACTION PLANT.
CAUSTICIZING PLANT.
TALLOW MELTING PLANT.



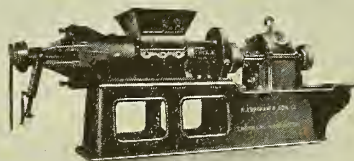
N° 8 large combined triple
granite roller mill with triple
rotary cutter. Granite rollers
72 inches long. 20 inches diameter.



N° 7 improved multiple roller
milling and mixing mill made
with 10, 12 or 14 rollers. This mill
may be used in conjunction with
our N° 6 or N° 7 plodder.
Output 3 tons per day.



N° 6 Giant Bronze lined plodder.
Output 2 tons per day.



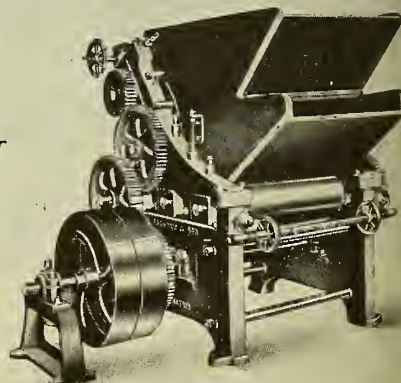
N° 8 mammoth plodder with reduction gear
for Motor drive. Output 3 tons per day.



Toilet Bar
Cutting Machine.



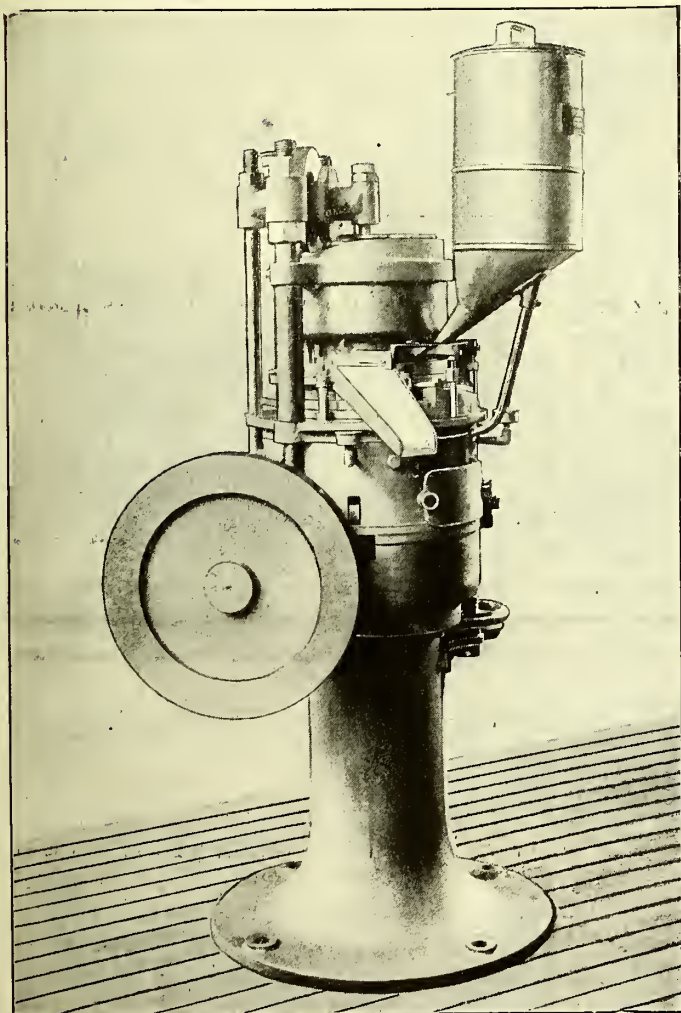
Rotary Cutter
or Shredder.



N° 9 Giant Quadruple Roller Mill.
Output 2 tons per day.

Tablet Machinery.

No. 1 ROTARY MACHINE.



The Machine for heavy pressure and long continued hard service.

TABLET MACHINES

In eight sizes and of different types suitable for all classes of work, from Tablets of 2 in. diameter to Hypodermics; also for Cubes, Octagons, Ovals, or any other shape.

SPECIAL PLANT AND OPERATORS

For supplying Punches and Dies for any make of Machine. Orders for these can generally be supplied in one or two days.

OLD MACHINES REPAIRED OR ALTERED FOR MORE MODERN REQUIREMENTS.

Ointment Mills, Gelatine Pill-Coaters (Vacuum Process), Gelatine Capsule Machinery for Machine- and Hand-made Capsules, Automatic Percolating
 :: :: and Distilling Plants, &c. &c. :: ::

S. W. WILKINSON & CO.,

SEND FOR CATALOGUE.

===== PHARMACEUTICAL ENGINEERS, =====
 LITTLE HOLME STREET, LEICESTER.

FORGROVE WRAPPING MACHINES

Note what users say :

Dear Sirs,

With reference to the instalment of SEVEN "PEPS" WRAPPING, COUNTING, AND PACKING MACHINES which you have recently completed, we have pleasure in notifying you that these are giving every satisfaction, turning out the work in a way in which we hardly anticipated would have been possible when you undertook the responsibility of designing these.

Yours truly,

C. E. FULFORD, Limited.

Dear Sirs,

I have pleasure in enclosing cheque to cover your statement for the Tablet-filling Machine. When your representative was here it ran perfectly, and as soon as we can standardise our bottles I think we shall have the best Tablet-filling Machine on the market.

I will order another one later on when I see exactly what I require.

I take this opportunity of thanking you for the care you took and the time you spent over the matter.

Yours faithfully,

THE VENO DRUG CO., Ltd.

THIS

Forgrove Machine wraps Round Medicated Tablets

100 TO 120 PER MINUTE OUTPUT.

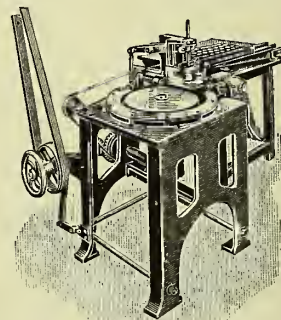
Machines for Counting and Filling Tablets and Pills

INTO BOTTLES AND OTHER RECEPTACLES.

We make Machines for wrapping soap, cube blue, meat cubes, chocolate, cocoa blocks, caramels, and Machines for Twist Wrapping.

THE FORGROVE MACHINERY CO. Ltd.,

Admiral Street, Dewsbury Road, LEEDS.



Chemists and Packers of Sundries

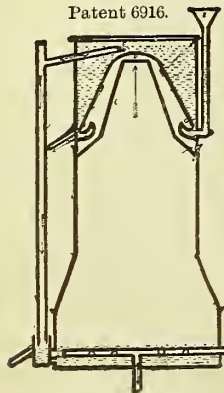
Should Write for Particulars of

TUBE-FILLING MACHINES. WHISKS AND EMULSIFIERS. HAND-FILLING TAPS. FLAT TIN FILLING MACHINES. LOW PRICED BOTTLE-FILLING MACHINERY. ACCESSORIES, SPECIALLY CONSTRUCTED FOR RETAIL AND SMALL WHOLESALE ESTABLISHMENTS, TO

ROBERTS' PATENT FILLING MACHINE CO.,

Head Office and Showroom: 33 Roundcroft Street, Bolton.

Patent 6916.



TO MANUFACTURING AND WHOLESALE DRUGGISTS, &C.

We beg to call attention to the fact that our well-known Patent Stills are made for heating by steam pressure. Where this is available it forms a very cheap and efficient method of obtaining distilled water. Any pressure will suit from 10 to 200 lb., made in various sizes to produce from 1½ to 15 gallons PER HOUR. Cost of distilled water made this way is practically nil. As with our Gas Stills, these are perfectly automatic. Prices as below:—

For producing up to	1½ gallons per hour.	£3 10 0
"	5 "	" £10 0 0
"	9 "	" £12 10 0
"	15 "	" £16 10 0

The few most important places we give below afford evidence of the quality, efficiency and economy of the Steam Stills:—National Physical Laboratory, 2 in use; Imperial College of Science, 8 in use; University of Wales; Pharmaceutical Society; Guy's Hospital, Bacteriological Department; and many of the leading Breweries and Drug Houses, etc. etc.

Pamphlets & particulars forwarded on application. Estimates submitted free if required for supplying and fitting complete. BROWN & SON, Muriel St., King's Cross, London, N.

If you already have a Dental Practice, or if you are contemplating establishing one, **YOU NEED OUR ILLUSTRATED CATALOGUE.**

In it you will find everything that you want, of the highest quality, at the lowest prices.

Drop a Postcard at once for it.

**DENTAL MANUFACTURING
EDWARDS
COMPANY LIMITED**

**37 & 38 Margaret St.,
Oxford Circus,
LONDON, W.**

Branch Depot:

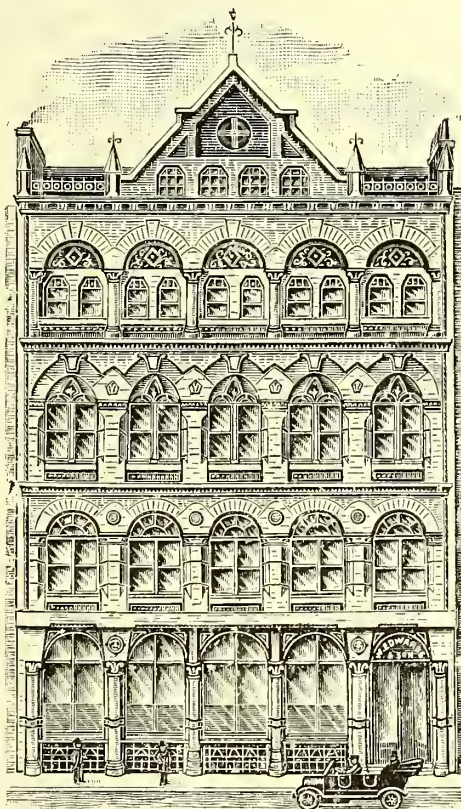
30 Finsbury Pavement, E.C.

Telephones: Central 5698; Bank 285.

Telegrams: "Medicines, Cent, London."

W. EDWARDS & SON

157 Queen Victoria Street,
AND



239 & 240 Upper Thames Street,
LONDON, E.C.

BEG TO INFORM THEIR CUSTOMERS AND THE TRADE THAT THEIR

PRICE LIST FOR 1914

OF

**Proprietary Medicines,
Druggists' Sundries,**

ETC. ETC.,

IS NOW READY. IF YOU HAVE NOT RECEIVED A COPY, PLEASE
APPLY ON TRADE CARD, AND ONE SHALL BE SENT BY RETURN.

A postcard brings you full particulars of the greatest Motor offer ever made.

When you think of it—

Why should you have two motor cars, when one will serve a dual purpose. Here is a 10/12 h.p.

Belsize

with a Dual Body.

One a 7-cwt. delivery van, the other a four-seater touring body, and you can make the change in a few minutes. This means real economy in garage space, running costs, depreciation, taxes, etc.

You can buy this car

on our unique easy payment system, 25 % down, the balance with only 2 % added, in twelve small monthly instalments.

This car works for you as you pay for it.

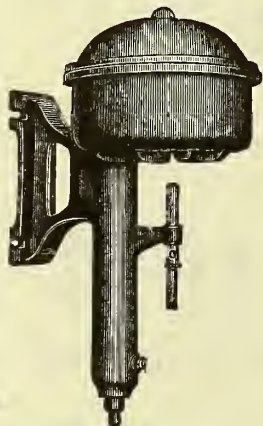
Humour your impulse, and send that postcard to-day.

Bentinck Motor Supply Co., Ltd.,
N.1. 13 Spring Gardens, Manchester.

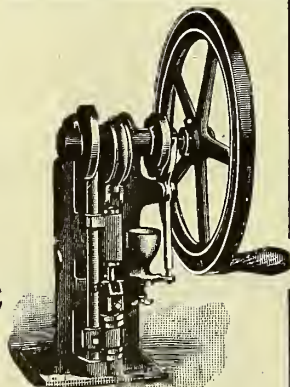


STOKES' GAS-HEATED AUTOMATIC WATER STILL £4. 4. carr. paid.

**WE WILL SHOW
YOU THESE AT
THE
CHEMISTS'
EXHIBITION.**



**THE "EUREKA"
TABLET MACHINE**
£6 carr. paid.



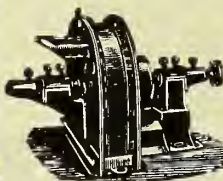
**SOLE AGENTS FOR F. J. STOKES MACHINE CO.,
THOMPSON & CAPPER, LTD.**

Manufacturing Chemists,
MANESTY BUILDINGS, COLLEGE LANE, LIVERPOOL.
Tel. No. 2093 ROYAL. Telegrams: "SANITAS LIVERPOOL."
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Est. 1852.

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COPPER VACUUM PANS, VACUUM PUMPS,
COPPER STEAM JACKETED PANS, ALUMINIUM
and TIN-LINED PANS, COPPER and BLOCK TIN
DISTILLED WATER APPARATUS, CONDENSED
MILK PLANT, &c.

H. BRAITHWAITE & CO. Ltd.

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Price of Chassis, with tyres, wings, lamps and horn, complete for the road .. **£290**



Model H, for 25 cwt. loads, with 9 ft. 2 in. wheel base, 4-cylinder, 20 H.P.

Specially adapted for quick delivery of Goods.

Demonstrations given on application.

Any type of body can be fitted to suit requirements.

CHEAP, ECONOMICAL, EFFICIENT.

THE CONSOLIDATED PNEUMATIC TOOL CO., LTD.,
PALACE CHAMBERS, 9 BRIDGE STREET, WESTMINSTER, S.W.

SHOWROOM: 79/80 YORK STREET, near ST. JAMES'S PARK STATION (District Railway).



THOMAS TILLING

Limited,

Motor Engineers, Haulage
 and Government Contractors.

Chief Office:

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Tel: 1209 Hop.

Are prepared to give quotations for
1 ton PETROL VEHICLES
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5 ton STEAM VEHICLES,
 with or without
3 ton TRAILER ATTACHED,
 for any period.

PATENT "2 in 1" EMULSIFIER

**FOR MAKING ALL KINDS OF EMULSIONS
 AND EMBROCATIONS IN ONE OPERATION**



A very simple and successful machine combining the usual separate mixing and emulsifying processes in one.

**Made in 8 to 10
 GALLON SIZES**

for either belt or electric drive, the latter being self-contained.

Send for
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 prices to—

**H. T. BOOTHROYD,
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 Bootle, Liverpool.**

Telephone: 420 Bootle.

Telegrams: "Commutator Liverpool."

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FREE ON APPLICATION**

"REGULIN."

REGISTERED. BRITISH PATENT NO. 19311.

A NATURAL REMEDY for regulating the bowels. It acts chiefly within the intestine, is tasteless, and does not affect the stomach. IT IS NOT A CATHARTIC.

Original box of 1 oz. at 1/1½, 3 oz. at 2/9, & 6 oz. at 4/6.

Also in tablets prepared with Chocolate at 1/1½ per tube of 25; and Biscuits containing a larger percentage of Regulín than the Tablets at 1/6 per box of 20.

Sole Agents for the United Kingdom, Colonies, & Dependencies (Canada excepted):

The REGULIN SYNDICATE, Ltd.,

Telephone: 5897 AVENUE. 15 Cullum Street, E.C. Telegrams: "Glycerol London."

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"SOLAZZI" LIQUORICE JUICE

THE CHEMISTS' BRAND.

'The Lancet' says: 'Of Standard Purity'

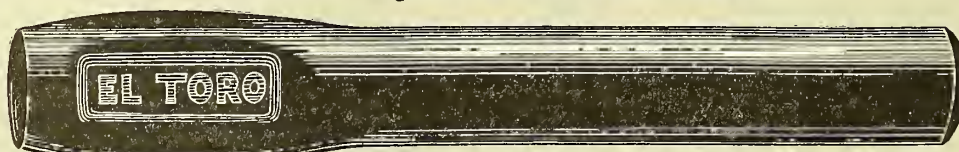
Recommended also by *The British Medical Journal, Health, The Chemist and Druggist, Food and Sanitation.*

Ask for SHOWCARDS and HANDBILLS. To be obtained of all Wholesale Houses.

DROGUERIES & HUILERIES ANVERSOISES, LTD.,

ANTWERP,
BELGIUM.

LIQUORICE MANUFACTURERS.



Own Plant
for
Liquorice
Extracting
from first-
class roots.

GUARANTEED PURE REFINED EXTRACT OF LIQUORICE.

BRIGHT, SOLUBLE.

In sticks of 8 and 5 to lb., or according to buyer's convenience. Sticks with buyer's own mark or name if desired; packed in cases of 1 cwt.

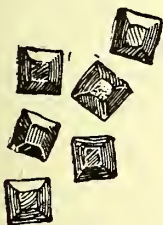
Glycyrrhizinate Amon. 70/72-80/82.

LIQUORICE ROOTS in Bundles.

Wholesale only.

THE ORIGINAL "Cushion-shaped"

Liquorice & Menthol Pellets



Do not stick together
JET BLACK & GLOSSY

Chemists may rely with confidence upon the efficacy of these pellets which (though often imitated) still remain unequalled. Nicely put up for retail or in bulk.

Goods carefully packed for Export

TINS: 2/- & 4/- PER DOZEN.
BULK: 3/6 per lb.



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Ernest Jackson & Co. Manufacturing Chemists,

Works and Offices : **CREDITON, DEVON.**

LONDON DEPOT: PLANTAIN PLACE, CROSBY ROW, BOROUGHS, S.E. 'Phone : HOP 2668.

20%

to

30%

on

PACKETS.

100%

to

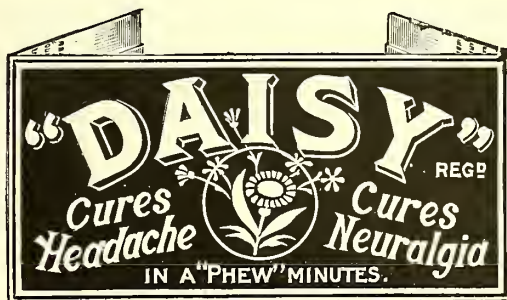
120%

on

**BROKEN
BULK.**

DAISY, LTD., Mammoth Works, **LEEDS.**

AND NO NIPPING



"Daisy" is on the P.A.T.A. List, and yields guaranteed protected profits on the full P.A.T.A. scale—20% on minimum purchases; and to Chemists who purchase in ordinary wholesale quantities, from 25% to 33 $\frac{1}{3}$ % profit on every packet sold. In many districts the bulk of the sales are in odd powders or in twos or threes at 1d. each. A packet costing 9d. or 10d. net thus sells for 1/8, and yields 100% to 120% profit.

It pays much better to sell "Daisy" daily, and pocket the substantial profits it yields, than to stock, but rarely sell, some unknown brand which the public never ask for and do not want.

There's no trouble, no waste time, no bad stock, with "Daisy"; but quick sales, large profits and satisfied customers always.

That's why you should keep "Daisy" to the front; in the window and on the counter. If you can sell more "Daisies" it will pay you well to do so. May we help you with a supply of Showcards or other adverts.? Please express your wants by postcard.

DAISY, LTD., Mammoth Works, **LEEDS.**

ALL CHEMISTS should stock

GREENWICH LEMONADE

2½d. packets make 2 Gallons ; 4½d. packets make 4 Gallons
of splendid Lemonade.

**Our Advertising Scheme sells 1 to 4 gross in one day when weather is favourable,
AND INCREASES YOUR ORDINARY TRADE.**

Send us a Postal Order or Cheque for 10/9, and we will send you, Carriage Paid, 6½ dozen 2½d. Packets, Showcards, Window Slips, particulars of above scheme and material to carry it out; or order through your Wholesaler.

GREENWICH LEMONADE CO., 209 TRAFALGAR RD.,
GREENWICH.

(Proprietor: J. MILNER, M.P.S.)

London Wholesale Agents, Messrs. SANGERS; Liverpool, Messrs. EVANS SONS LESCHER & WEBB;
Manchester, Messrs. GUEST & CO.; Belfast, Messrs. T. McMULLAN & CO.

THOS. GUEST & CO., City Works: Carruthers Street and Piercy Street, **Manchester.**

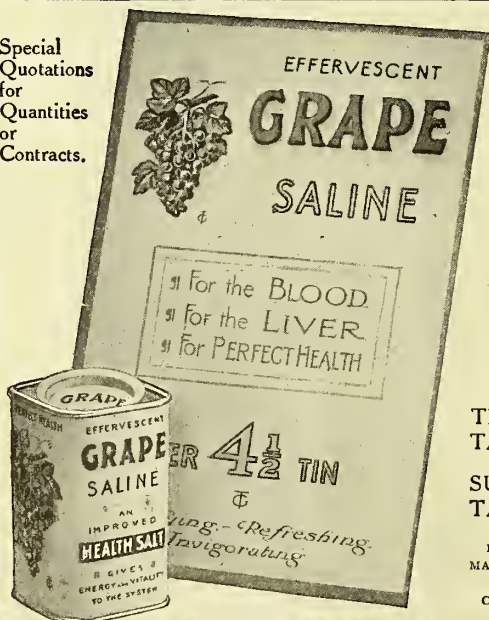
Telephone : 235 CENTRAL.

Medicated Confectioners.

Telegrams : "GUESTO."

Spring and Summer Lines.

Special
Quotations
for
Quantities
or
Contracts.



Manufacturers of

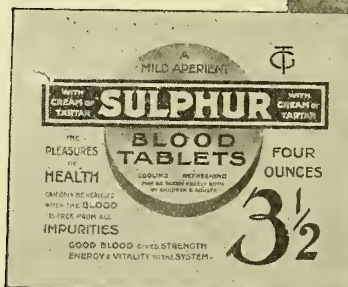
CITRATE OF MAGNESIA
in ¼-lb., ½-lb., 1-lb Bottles, and
in bulk.

EFFERVESCING SALINES,
HYGEIA SALT.
LIME JUICE BLOOD SALT.
SULPHUR &
SARSAPARILLA SALTS.
LIVER SALT.

BRIM-
STONE
and
TREACLE
TABLETS.

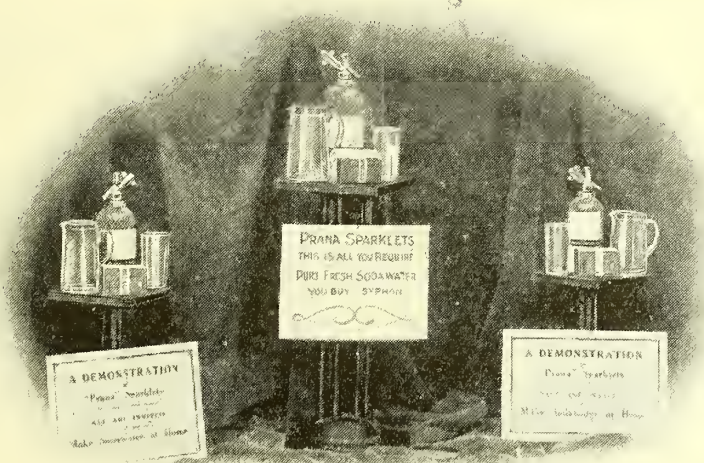
SULPHUR
TABLETS.

HAND-MADE,
MACHINE-MADE,
AND
COMPRESSED.



**SPĀ-SAL
TABLETS.**

A New
(2d. per ounce)
Sulphur Tablet.



This is a photograph of the most successful

"PRANA" SPARKLET WINDOW SHOW

ever arranged.

Background and Floor.—Dark curtains or drapery of velvet or any suitable material.

Foreground.—3 pedestals (or cases covered with paper or drapery) each carrying one Sparklet Syphon, one box (dummy) of Bulbs, a glass jug, and a tumbler.

Cards.—"This is all you require to make at home pure fresh Soda-water. Syphon (only one required) 4/-; Bulbs, 1/6 per box of 12 (first box, 2/-)."

Try the effect of this—the results will astonish you.

AERATORS, Ltd., "PRANA" SPARKLET WORKS, UPPER EDMONTON, LONDON, N.

PRICES PROTECTED.

Dr. Allinson's Food Preparations.

Food for Babies, Prepared Barley, Brunak, Power, N-F. Cocoa, Biscuits, Soup, Nutbutter (Walnut Brand), Wholemeal, &c.

NOTICE TO THE TRADE.

We issue a list of WHOLESALE HOUSES who keep above in stock; if for any reason you have difficulty in obtaining supplies, please send postcard direct to us, and a list will be sent to you by return. See trade mark on all our goods: "T. R. ALLINSON." *None Genuine Without.*

NATURAL FOOD COMPANY, LIMITED,
305 Cambridge Rd., Bethnal Green, LONDON, E.

Handbills, Booklets, Showcards, &c., Free.

N.B.—Our goods are to be sold only at prices stated upon the Price List we issue to the trade.

LECITHIN EX OVO

LECITHIN-ALBUMEN POWDER

For the manufacture of Tablets, Chemical Foods, Nerve Tonics, etc.

LECITHIN FOOD PREPARATIONS

Prepared with 2½%, 5%, or 10% of PURE Lecithin in bulk, or in boxes or cartons.

LECITHIN TABLETS, DRAGEES, PILLS or CHOCOLATE.

Prepared by Chemical Works "VICTORIA," Berlin, S.W.

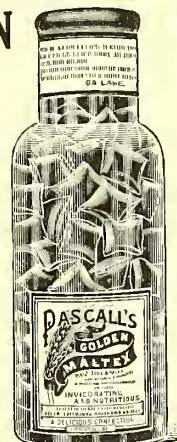
Sole Agent for U.K.:

HUGO LORENZ, 7 & 8 Idol Lane, London, E.C.

Write for Pamphlets. Tel. Nos.: Avenue 5945; Central 12641.

PASCALL'S GOLDEN MALTEX

Contains
25%
Pure
Malt
Extract



of
especial
food value
for
Children.

6d. & 1/-
BOTTLES.

4 OZS. 3½d.

¶ Pascall's Golden Maltex is admirably suited for sale by Chemists, owing to its nutritive and restorative qualities.

¶ Order through your Wholesale Druggist, or direct from the manufacturers,

JAS. PASCALL, Ltd., LONDON, S.E.



TRADE MARK.

£300 IN PRIZES given
annually to users
of R. J. F. & B.'s
preparations.

ESTABLISHED 126 YEARS. R. J. FULLWOOD & BLAND'S

Celebrated Preparations are used and recommended at the principal
Dairy Institutes, and have the largest sale in Great Britain.

ANNATTO
Liquid and Cake
The Strongest and
Brightest.

CHEESE RENNET
Strength 1:1000
(Liquid, Powder, and Tablets.)

BUTTER COLOUR
"OLEO" and
"SUNBEAM."

PRESERVATIVES
Powder and Liquid.
(Guaranteed Harmless.)

ESS. OF RENNET
Sold in 62. and 1/- bottles.

JUNKET POWDER
Sold in 62. and 27. pots.

JUNKET TABLETS
Sold in 62. tubes.

These
preparations
are supplied
in bulk;
also packed with
customer's own labels.
Kindly allow us to submit
Samples and Quotations.

Office and Manufactory: 31, 33 & 35 BEYENDEN ST., HOXTON, LONDON, N.

"FERROCARNIS"

A pleasantly flavoured solution of iron in organic combination with
BRAND'S Concentrated Raw Meat Juice.

Ferrocarnis combines the stimulating properties of meat juice with the tonic effect
of iron. This product does not cause constipation, and thus affords a means
of administering iron to patients who are unable to take ordinary iron preparations.

PREPARED BY

BRAND & CO., LTD., MAYFAIR WORKS,
SOUTH LAMBETH ROAD, S.W.



CHEMISTS SHOULD PUSH

FRAME FOOD

IT BEARS A GOOD PROFIT.

SHOWCARDS AND DUMMIES ON APPLICATION.

ON THE P.A.T.A. LIST.

Frame Food Products always please customers.

FRAME FOOD CO.

— Food Specialists —
SOUTHFIELDS, LONDON, S.W.

HORLICK'S MALTED MILK Lunch Tablets

MALTED BARLEY, WHEAT & MILK in TABLET Form.

In Glass Pocket Flasks.

Costs the Trade 9/- for Single Dozens.

ESPECIALLY CONVENIENT FOR TRAVELLERS

:: SPORTSMEN, ATHLETES AND CYCLISTS. ::

Write for particulars to—

HORLICK'S MALTED MILK CO.
SLOUGH, BUCKS., England.

A NEW SIZE
TO SELL FOR
ONE SHILLING.



One Dozen Flasks for Counter Display.

Lofthouse & Saltmer, Ltd.

Wholesale and Export Drug Merchants,
Manufacturing Chemists

HULL

Invite the Trade to take up the following valuable P.A.T.A. Protected Lines, bearing a very large Protected Retail Profit, which sell freely and are well known and valued by the Public in many parts of the country.

	Protected Retail Price.	Dozen Net.
* LOSALL'S SALT (well advertised), tins	6d.	3 6
* " " " " " "	1/-	7/-
* " " " " " bottles in cartons	1/6	10/6

* Losall's Salt sells so well, surely it must pay Pharmacists to stock such a big profit-bearing protected line.

LOSALL'S COMPOUND SULPHUR SOAP.

A valuable emollient medicated skin soap especially suitable for use in Eczema

Chemists requiring effective advertising matter for Losall's Salt, &c., will, on application direct to Lofthouse & Saltmer, receive a liberal supply of Dummies, Showcards, Window Slips, Price Tickets, &c., Carriage Paid, whether or no they have an account open with the Firm.

**SPECIAL TERMS ARE OFFERED FOR
WHOLE OR PART WINDOW DISPLAYS.**

VEROX

ALL BEEF. ALL BRITISH

Fluid Beef is the line that sells. More cups to the bottle, better quality and low minimum selling prices are a few points that, backed by good advertising, create the demand.

25% Profit

One quarter of the selling price is yours. Send to-day for free sample, price list, and special advertising terms to—

TOOTH'S Liebig (Est. 1865),
23 LEMAN STREET, LONDON, E.

SAL HEPATICA

PUT UP FOR EXPORT.

Small	Size,	3 oz.	bottle, in case
Medium	"	7 "	" "
Large	"	16 "	" "

OBTAINABLE IN LONDON FROM

Thos. Christy & Co., 4-12 Old Swan Lane
Upper Thames Street, E.C.
The American Drug Stores, Trafalgar Bldgs.,
6 Northumberland Avenue, London, W.C.
Burgoyne, Burbidges & Co., 16 Coleman St.
E.C.
F. Newbery & Sons, Ltd., 27 Charterhouse
Square, E.C.
Roberts & Co., 76 New Bond Street, W.



ALBUMOZO TONIC FOOD

Registered No. 299,515

A scientific combination of finest Milk Casein, and Sodium Glycerophosphates, also containing the only true nerve food, viz. Organic Phosphorus, in such a form that it can be easily absorbed and assimilated by the cells, thus strengthening the weakened nerves.



PRICE LIST.

Wholesale.		To Retail at
2 oz.	8/- per doz. tins.	1/3 per tin.
4 oz.	12/6 "	2/- "
8 oz.	18/- "	3/6 "
16 oz.	30/- "	6/- "

TERMS.—14 days net or 2½% discount for cash with order. An additional 5% will be allowed on orders up to the value of £5 assorted, or of one size.

PROFIT 110 PER CENT.

For the convenience of chemists who wish to pack under their own name, we also supply our Tonic Food in bulk, in packages of 7, 14 and 28 lb. Prices on application. Albumozo Tonic Food may also be had with an addition of Ovo Lecithin.

We shall be glad to send samples and literature to all parts of the world. Colonial inquiries specially solicited.

The British Casein Co. (1911) Ltd.

24 GREAT DOVER STREET, S.E.

Telegrams: "Albumozo London."

Telephones { 309 Hop.
8633 Central.

A. MILLAR & CO., LTD., DUBLIN PURE ORANGE WINE

VINUM AURANTII, B.P.)

Prepared in strict accordance with the Formula of the British Pharmacopoeia.

(Wholesale only)

London Agent: JAMES STIRTON, 43 GREAT TOWER STREET, E.C.

TO USERS and DEALERS in METH. SPIRIT and SPIRIT OF WINE.
FOR QUOTATIONS apply to—

PRESTON'S LIVERPOOL DISTILLERY CO., L^D

The Largest Makers in the Kingdom.

BANKHALL DISTILLERY, SANDHILLS, LIVERPOOL. Office; 4 India B'ngs, Water St., Liverpool.

SPRUCE BEER

BEEF and MALT WINE

QUININE WINE (B.P.)

Write for prices and samples to—

JOSEPH HOBSON & SON,

Dantzic Works, Leeds.

SAPONINE

(SOLUBLE),

MANUFACTURED BY

C. W. FIELD,

Cambrian Mills, LIVERPOOL.

Special Terms to Wholesalers and large Consumers.



Sister Lauras Food

If you stock this Food you know of its wonderful success—know that it is better than we state.

If you have not tried it, order from your wholesaler now, and test it.

It is a quick seller with a good profit—and it always brings repeat orders.

Sold in one size of tin only at 1/- net

On P.A.T.A. list

Wholesale price - - 9/6 per dozen

**Special Terms to Retailers purchasing
Wholesale quantity with Window Display.**

Order through your Wholesaler to-day, or write now
for sample, showcards, etc., to

Sister Lauras Infant Food

Company Limited

156 St. Vincent St.

GLASGOW



THE BERKEFELD FILTER

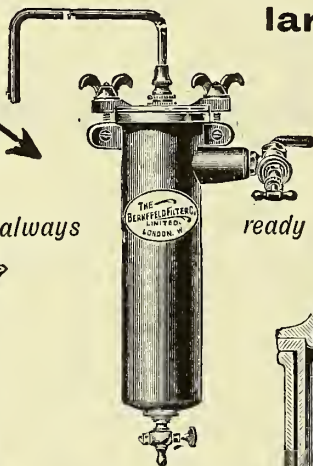
GERMPROOF.

This Filter is in
**CHEMISTS
INSURANCE ACT**

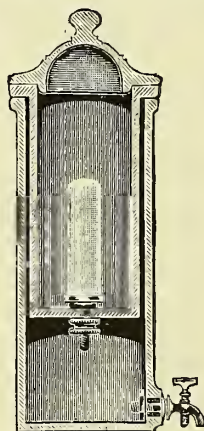
large demand by
**FOR NATIONAL
DISPENSING.**

PURE Water always

ready and in abundance.



**GLASS
TABLE FILTERS.**
In 3 sizes.

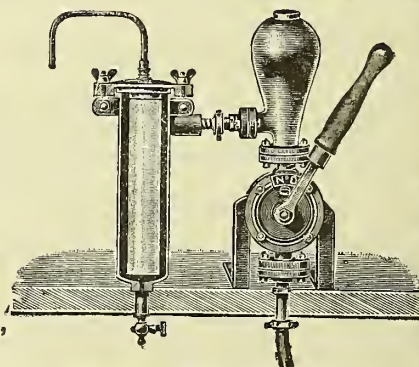


**STONEWARE
DRIP FILTERS**
In 4 sizes.

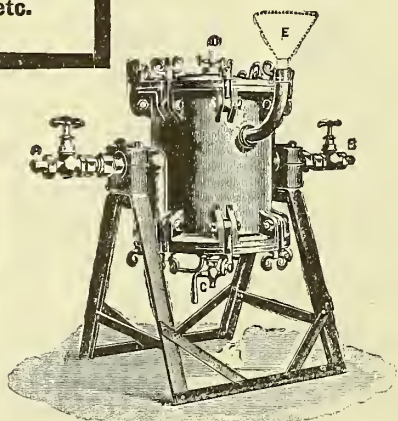
*These give
a Sterile
Filtrate.*



**TRAVELLERS'
PUMP
FILTERS.**



HOUSE PUMP FILTERS.



LARGE SUPPLY FILTERS.
Fitted with 3, 5, 7, 9, 15, 25 & 37 cylinders.
Most essential for Mineral Water Manufacturers

**SEMI-
ROTARY
PUMPS**



For Water,
Wines, Spirits,
Chemicals,
etc. etc.

Fully
Illustrated
**PRICE
LIST**
and
TERMS
on
application
to
"C" Dept.

The Berkefeld Filter Co., Ltd.,

Telegrams:
"Tubipores, Ox, London."

121 OXFORD STREET, LONDON, W.

Telephone:
3994 Gerrard

Contractors to H.M. Government, Admiralty, War Office, India Office, Crown Agents for the Colonies, Office of Works, etc., and many Foreign Governments.

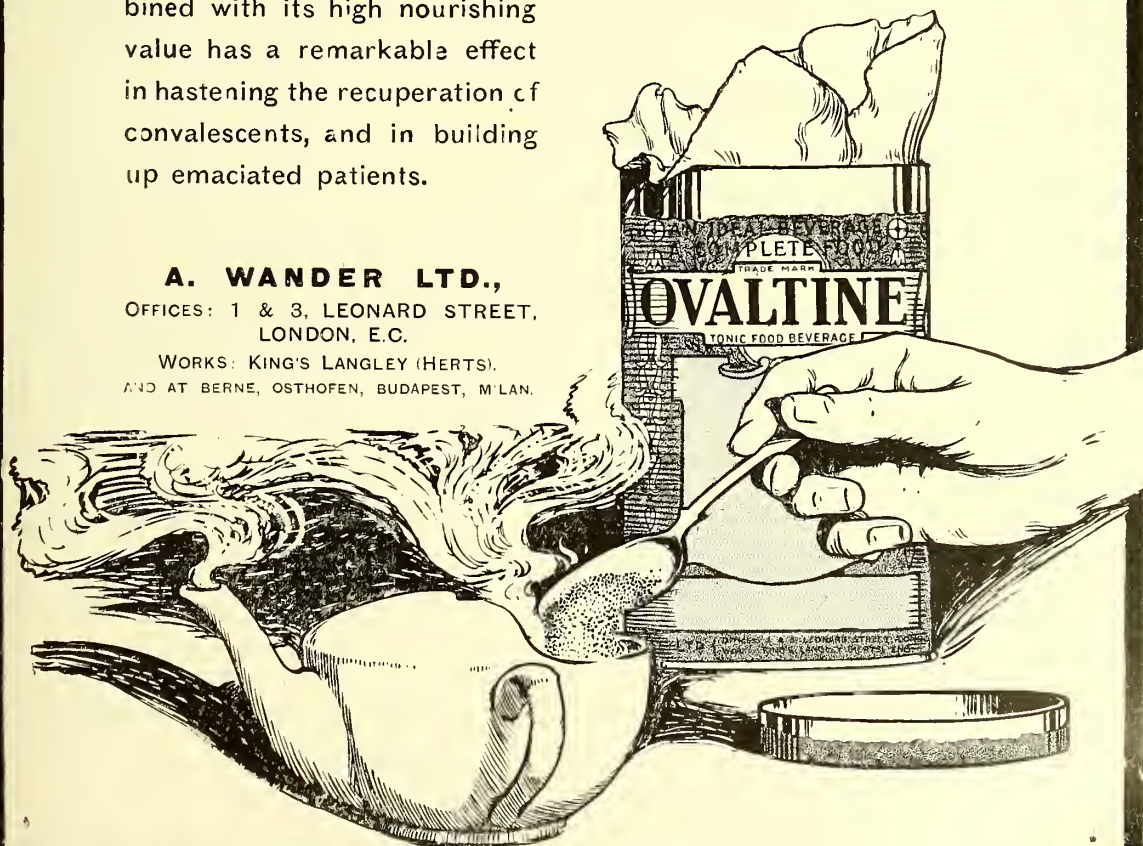
OVALTINE

IN THE SICK ROOM.

The ease of preparation of "Ovaltine" is an obvious advantage. The granules on being dropped into hot milk dissolve in a few seconds. Troublesome and tedious cooking processes are unnecessary.

A cup of "Ovaltine" contains as much nourishment as three eggs, and is digested and absorbed with the minimum of strain to the digestive functions. Its flavour is always acceptable even to the most fastidious and during prolonged courses. "Ovaltine" is distinguished from ordinary invalid foods in being unusually rich in organic phosphorus compounds. This combined with its high nourishing value has a remarkable effect in hastening the recuperation of convalescents, and in building up emaciated patients.

A. WANDER LTD.,
OFFICES: 1 & 3, LEONARD STREET,
LONDON, E.C.
WORKS: KING'S LANGLEY (HERTS).
AND AT BERNE, OSTHOFEN, BUDAPEST, M'LAN.



SOLPORT BROTHERS

184 to 190 Goswell Road, London, E.C.

Telephone : 4363 CENTRAL.

Telegrams : "SOLPORT, BARB, LONDON."

MANUFACTURERS (Wholesale and Export) of **Druggists' Sundries & Toilet Accessories**

Corn Plasters
Bunion Plasters
Corn Shields
Corn Silk
Bath Gloves
Bath Gauntlets
Massage Gloves
Massage Gauntlets
Loofah Gloves
Bath Straps
Horsehair Friction Gloves
Horsehair Friction Straps
"Frictor" Gloves and Straps
Bath Pads
Washing Squares
Bath Mats
Knitted Cotton Friction Gloves
Knitted Woollen Friction Gloves
"Marathon" Fibre Flesh Gloves
"Marathon" Fibre Flesh Straps
"E.F." Seamless Turco
Sponge Gloves
Sleeping Gloves
Sleeping Socks
Loofah Socks
Straw Socks
Cork Socks
Hair Socks
Court Plaster
Gold Beater's Skin
Oiled Silk
Cutta Percha Tissue
Respirators

Yeo's Inhalers
Loofahs
Finger Stalls, Chamois
Finger Stalls, Silk
Finger Stalls, Stockingette
Finger Stalls, Kid
Finger Stalls, Cotton
Finger Stalls, Poplin
Finger Stalls, Paroubek's
"Foldo"
Finger Stalls, "Auto"
Finger Stalls, Elastic Thread
"Sterilette" Dressing
Loofah Sandals
Mouchesrides
Sponge Felt
Impermeable Piline
Wrist Straps
Paroubek's Wrist Straps
Chest Protectors, Scarlet Felt
Chest Protectors, Grey Felt
Chest Protectors, Stockingette
Chest Protectors,
Chamois Lined
Chest Protectors, Pine Felt
Chest Protectors, Furfelt
Chamois-lined Vests
Body Belts
Hot Water Bottle Covers
Throat Compresses
Turkish Towels
Powder Puffs
Rouge Puffs

Puff Boxes
Puff Bowls
Nail Polishers
Nail Polishing Stones
Powder Books
Face Chamois
Complexion Gloves
Eyeshades, Silk
Eyeshades, Celluloid
Reading Shades
Vaccination Shields
Vaccination Pads
Nursing Aprons
Filter Bags
Sponge Bags
Sponge Wraps
Bathing Caps
Toilet Holdalls
Safety Pins
Combs and Brushes
Toothpicks
Nail Scissors
Manicure Scissors
Indiarubber Sponges
Indiarubber Massage Gloves
Indiarubber Massage Straps
Enemas
Chamois Leathers
Housemaids' Chamois Gloves
Sponge Baskets
Shaving Brushes
Tooth Brushes
Nail Brushes
Dr. Dale's Dentos

The above goods, in which we specialise, are quoted
— in our current Price List, fully illustrated. —

If you are not on our list to receive this Catalogue regularly, please write to us.

Trivalin (Overlach).

A substitute for Morphia.

In this chemical combination the undesirable properties of one drug are counteracted by the others, while the beneficial properties of all are intensified.

A substitute for Morphia free from its toxic effect upon heart, respiratory centre and digestive system (i.e. absence of nausea and vomiting). It is anodyne in every affection or wound, and is especially appropriate in inoperable cancer and in painful dressings. After injection of an ordinary dose the patient remains capable of work and mentally clear. As a pure hypnotic in larger doses it acts quickly and leaves no bad effects.

PRICES:

Boxes 6×1 c.c. Ampuls for Hypodermic Injection,	2/6	per box.
„ 12×1 c.c. „ „	5/-	„
Bottles 10 c.c.... „ „	4/-	„
„ 20 c.c.... „ „	7/6	„

IN TABLETS FOR INTERNAL ADMINISTRATION.

Tubes containing 12 tablets, Sugar or Chocolate Coated,	1/6
Bottles „ 50 „ „ „	5/-
1 tablet = $\frac{1}{2}$ c.c. Trivalin Solution.	

Trivalin-Hyoscine

(Containing $\frac{1}{15}$ gr. Hyoscine to each 1 c.c. Trivalin Solution.)

Boxes 6×1 c.c. Ampuls for Hypodermic Injection,	2/6	per box.
„ 12×1 c.c. „ „	5/-	„
Bottles 10 c.c.... „ „	4/-	„

25% TO CHEMISTS.

The Ideal Corrective

For **INTESTINAL TORPOR,**
Languor, Loss of Appetite, Weakness
of the Stomach, etc.



Dia-Paraffin

is the only tasteless and odourless
preparation of Petroleum in

Powder Form.

Popular with adults and children,
and well-advertised in the daily papers.

Prices: 1/- and 2/6

On the P.A.T.A.

FREE BONUS FOR DISPLAYS.

Showcards and Counter Wrappers on request.

**FOREIGN AND COLONIAL
AGENTS WANTED.**

The Saccharin Corporation, Ltd.,

(PHARMACEUTICAL DEPT.)

36 & 37 QUEEN STREET, LONDON, E.C.

**PERFECT
SOLUBLE ESSENCE
OF
LEMON**

**IS A PURE FRUIT ESSENCE
MADE ENTIRELY FROM LEMONS.**

**IT IS GUARANTEED FREE FROM TERPENELESS AND
SESQUITERPENELESS OIL OF LEMON, OIL OF LIMES,
ARTIFICIAL CITRAL OR ANY OTHER ADMIXTURE.**

**THE ENORMOUS DEMAND FOR THIS PERFECT ESSENCE IS A PROOF OF
ITS SUPERLATIVE QUALITY AND NOTHING APPROACHING IT IN FLAVOUR
OR AROMA CAN BE MADE FROM TERPENELESS OILS BY ANY PROCESS.**

**THE SALE OF LEMONADE DEPENDS
ENTIRELY ON THE FLAVOURING USED**

**STEVENSON & HOWELL, LTD.
SOUTHWARK STREET, LONDON, S.E.**

Sparkling "ORANA" (TRADE MARK)

(ORANGE SQUASH)

A DELICIOUS
FRUIT BEVERAGE

Prepared entirely from selected oranges

Drinks exactly like fresh orange
juice squeezed on to sugar.



DE ONLY FROM

STEVENSON & HOWELL'S

RED BALL BRAND

PERFECT SOLUBLE ESSENCE OF SWEET ORANGES.

Never mind the Thermometer

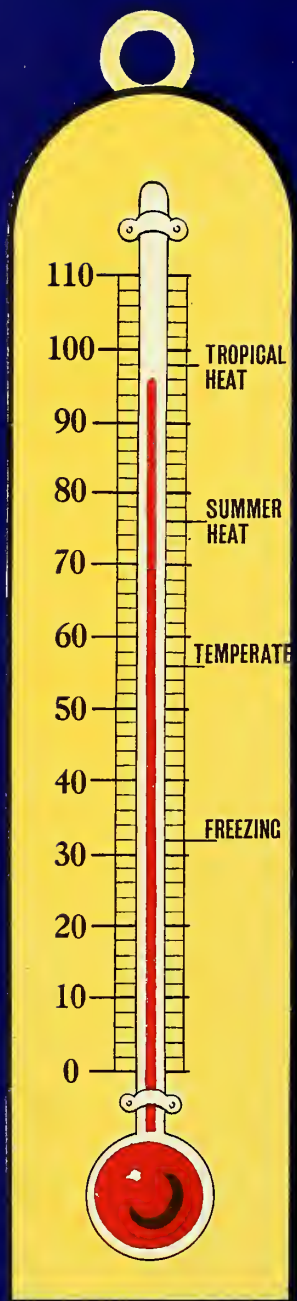
STEVENSON & HOWELL'S

"RED BALL" BRAND.

Essence for

CLOUDY STONE GINGER

Enables you to cope with
VAGARIES OF TEMPERATURE
AND CLIMATE



Produces at a moment's notice, and
in any climate . . .

STONE GINGER BEER
equal to the best brewed article.



NO RISK!
NO TROUBLE!
NO DELAY!
NO INFUSING!
NO STRAINING!



Makes Stone Ginger Beer which will
always be in the best possible condition and
always uniform in flavour—ideals impossible
of achievement by the complicated and
troublesome process of brewing.

BUT IT MUST BE
STEVENSON & HOWELL'S

Telegraphic Address:
"DISTILLER, BOROH, LONDON"

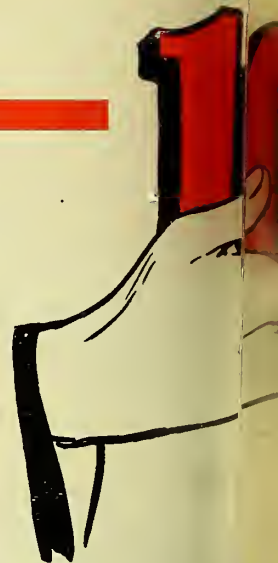
STEVENSON & HOWELL LTD.
Standard Works, SOUTHWARK, LONDON, S.E.

Telephone No.
HOP, 3870 (2 lines)





Our Profitable



"EUCRYL" Dentifrice is a quick-selling side-line on which you can make a profit of 100 per cent. There is already an enormous demand for "EUCRYL." Everybody's buying it.

Every tin of "EUCRYL" is a tin of quality—that is why "EUCRYL" sales repeat themselves over and over again. Purchasers are satisfied, and satisfaction means—a continuity of orders. But do not miss THE point—you make **100 per cent.** profit on every tin of "EUCRYL" sold, and the sales are going up by leaps and bounds.



If you pass over all the

"EUCRYL" DENTIFRICE

100 per cent. profit on every tin sold.

A quick-selling side-line.

The Dentifrice which everybody likes.

Free Samples and attractive Showcards.





Bonus Offer

Thousands of people pass your shop daily, and if you stock "EUCRYL" you will make a direct appeal to those who study Teeth Hygiene for health's sake.

It is essential you should order *now*, thus avoiding disappointment owing to the fact that those Chemists already selling "EUCRYL" are constantly replenishing their exhausted stocks. We are emphasising this **100 per cent.** profit offer with confidence, knowing that you appreciate the literal value of **100 per cent.** on a side-line that *does* pay, and feeling certain that *you*, like many others, will recognise the importance of our "EUCRYL" message.

Now, remember these—

"EUCRYL" DENTIFRICE

The sales are increasing daily.

Each sale will bring you repeats.

Order to-day and begin making profits.

See next page for Special Offer.



EUCRYL ·TOOTH· POWDER



PRICES OF EUCRYL TOOTH POWDER TO THE TRADE.

Opening Orders.

BUYING PRICE.	£	s.	d.	SELLING PRICE.	£	s.	d.
3 doz. 6d. tins at 3/6 doz.	10	6		4 dozen at 6d.	1	4	0
1 doz. 6d. free (for counter display)	-	-	-				
Free samples, showcards, etc.	-	-	-				
Carriage Paid	£0	10	6		£1	4	0

Repeat Orders.

BUYING PRICE.	£	s.	d.	SELLING PRICE.	£	s.	d.
3 doz. 6d. tins at 3/6 doz.	10	6		3½ doz. at 6d.	1	1	0
½-doz. 6d. free (for counter display)	-	-	-				
Free samples, showcards, etc.	-	-	-				
Carriage Paid	£0	10	6		£1	1	0

Fill in this Form—Cut it out—Post to us now.

ORDER

FORM

To EUCRYL, LIMITED, 61/63, Lant Street, Southwark, London, S.E.

Please forward, CARRIAGE PAID,

dozen 6d. tins EUCRYL TOOTH POWDER and bonus.

Showcards and Advertising matter. free samples for distribution.

From _____

Post Card.

½d.

STAMP.

JOHN·DICKINSON & CO L^{TD}

"Paper Makers for over 100 years"

OLD BAILEY · LONDON

I am interested in your "Cordelia" Paper and would
We are be glad to receive your portfolio showing actual examples
of some of the uses to which this paper can be put.

Name

Street

Town

Business



What does it do ?

Not what does it cost ?

Why "Cordelia" Paper offers a unique opportunity to those who advertise.

IT is what a piece of printed matter does, not what it costs, that establishes its real value.

If you print your next folder or other advertising material on "**Cordelia**" Paper, its distinctiveness will so influence your message that it will readily get a hearing and its unique appearance will actually prohibit the waste paper basket habit, so to speak.

"**Cordelia**" Paper costs no more than other kinds and is considerably cheaper than many imported grades, so by using it you will be combining efficiency with economy.

Apart from being truly distinctive in every respect, "**Cordelia**" Paper has wonderful strength, flexibility, wearing and embossing qualities, and is stocked in white and many colours with a dainty flaxen finish as well as the attractive facing as shown on this sample.

For the successful presentation of any business proposition, "**Cordelia**" Paper is unique and can even be employed to great advantage when producing programmes, cards, tickets, menus, envelopes, etc.

On the assumption that you are interested in a paper which is unmistakably distinctive and more than usually serviceable for a variety of purposes, we shall be pleased to send you, on receipt of the attached card, a portfolio of samples indicating many of the ways in which "**Cordelia**" Paper can be profitably employed, and we will willingly send your printer sample sheets for any proofs you may wish to see. Hundreds of printers already have stocks of this paper on hand.

John Dickinson & Co., Ltd.,

PAPER MAKERS.

Head Office, Old Bailey, London.

Information and Samples can be obtained from our address in the following towns :

BIRMINGHAM, BRISTOL, MANCHESTER, LEEDS, NOTTINGHAM, GLASGOW, BELFAST, CALCUTTA, BOMBAY, MADRAS, RANGOON, CAPETOWN, JOHANNESBURG, DURBAN, EAST LONDON, SYDNEY (N.S.W.), MONTREAL.



In connection with this print "The Caxton Magazine" speaks as follows:—

"AN OFFSET TRIUMPH."

"But what gripped public attention . . . was a striking, almost life-size, study of a girl's face. The eyes were large and arresting; they looked through you, they followed you. There was real power in this picture. Dickinson's found a tremendous call for this subject, and while the exhibition had only run half its course I heard of their deciding to print a thousand or two more of this girl's head study. The crowd clamouring and stretching hands for this picture was one of the sights of the exhibition."

The following is an extract from "Sales & Wants Advertiser."

"What perhaps attracted the greatest attention was a superb four-colour offset reproduction on the well-known Cordelia paper, several thousand copies of which were distributed."

There is not the slightest doubt that a very beautiful result was obtained on this charming quality, a result which goes far to show that Cordelia is a paper which every printer should stock, as it can be so well used for a very varied number of purposes, particularly those where the customer calls for "something out of the ordinary."

The picture is truly worth a frame, and every Printer or Stationer who desires to show a print which will arrest attention would find it difficult to improve upon this one."

THE THOUSANDS of REQUESTS ^{AT} THE RECENT PRINTERS' EXHIBITION

for the striking print, of which the illustration is a miniature, causes us to think that many who were not there may like to have a copy. We therefore offer to send one to any applicant who sends three penny stamps (foreign and colonial four penny stamps), to defray the cost of postage, etc. Each print will be dispatched in a strawboard tube.

This print is in four colours and is the work of the offset press; it strikingly duplicates the original—a water-colour drawing.

To print satisfactorily fine screen blocks on such a rough surface could not have been done a few years ago, and it is a good example of the present day progress in illustration printing.

The paper used for this inset, and that used for the large print, is

CORDELIA

"The Paper with a charm"

FROM THE MILLS OF

JOHN DICKINSON & CO LTD

"Paper Makers for over 100 years"
OLD BAILEY · LONDON

Delightful Bee



is made from **MASON'S**
EXTRACT OF HERBS

MANUFACTURED BY NEWBALL & MASON, NOTTINGHAM.

LIST OF MASON'S EXTRACTS.

MASON'S Extract of Herbs, for Botanic Beer.

MASON'S Extract of Ginger, for Stone Ginger Beer.

MASON'S Ginger Ale Extract, for finest Ginger Ale.

MASON'S "Lemonine," for Brewed Lemonade.

MASON'S "Ciderine," for Cider.

MASON'S Extract of Sarsaparilla, for Beer or Porter.

MASON'S "Horehoundine," for Horehound Beer.

MASON'S Extract of Dandelion, for Stout.

MASON'S Extract of Burdock, for Burdock Stout.

MASON'S Extract of Dandelion and Burdock.

MASON'S Extract of Malt and Hops (white) for Pale Ale

MASON'S Extract of Malt and Hops (black), for Stout

MASON'S Extract of Hops, for Hop Bitters.

MASON'S "Foamine," for Heading.

Supplied in bottles, 6d., 1/-, and 2/- size ;
also special size for brewers of temperance
beers, called 5/- size.

MAY WE SAMPLE AND QUOTE

HEALTH SALT

For years past we have given special attention to the manufacture of Health Salt, and are fully equipped with up-to-date drying rooms for this purpose. Our article is perfectly reliable, and of good keeping quality.

We have about thirty designs in Health Salt tins to select from; therefore, if any of our customers would like a tin for their exclusive use in their neighbourhood we shall be pleased to oblige them. Samples sent on application.

Customers' own name printed on lid of tin for orders of not less than 5 gross.

Good!! it's

MAKE
PRIME
HERB
BEER
AT
HOME
FROM
MASON'S
EXTRACT
OF
HERBS.



A 6⁰ BOTTLE MAKES 8 GALLONS

NEWBALL & MASON, NOTTINGHAM.

MASON'S

YOUR
Most Profitable
LINES.
PACKED GOODS
and
DRUGGISTS' SUNDRIES.

IN ALL GRADES AND VARIETIES, TO MEET
ALL DEMANDS.

OUR SUNDRIES

are judiciously selected with a view
of providing our customers with

RELIABLE AND PROFIT-YIELDING LINES.

WE MANUFACTURE OUR OWN
PACKED GOODS

under qualified supervision from the
PUREST INGREDIENTS, and
always with the object of supplying
Chemists with attractively packed
articles—pleasing to their Customers.

ALL INQUIRIES WILL RECEIVE PROMPT ATTENTION.

SAMPLES ON APPLICATION.

900-page fully illustrated Catalogue post free on application to

FRANCIS NEWBERY & SONS, LTD.
27 CHARTERHOUSE SQUARE, E.C.

'PHONE: 905 HOLBORN.



A SYMPHONY IN SILVER & BLUE

PRICES OF VEN-YUSA GOODS.

VEN-YUSA CREAM (Non-Greasy)—

10/- per doz. net	...	...	Minimum Selling Price 1/- per pot.
9/3 „ „ (in gross quantities)	...	...	do. do.

VEN-YUSA SOAP (Super-Creamed Toilet), 4d. Tablets (boxed in threes)—

37/- per gross net (for quantities under 3 gross).	...	Minimum Selling Price, 4d. per tablet, or 11d. per box of 3.
37/- „ (less 2½ % for 3 gross quantities)	do.	do.
37/- „ (less 5 % for 6 gross quantities)	do.	do.

A rebate of 1/- per gross on Ven-Yusa Toilet Soap is allowed if ordered in boxes containing 1 doz. Tablets instead of boxes of 3 Tablets.

Special Bonus Terms for Window Displays.

COST.			SELLING PRICE.		
	£	s. d.		£	s. d.
6 doz. Ven - Yusa Non - Greasy Cream, 1/- size	2	15	6	6 doz. Ven-Yusa Cream at 1/-	3 12 0
1 gross Ven-Yusa Toilet Soap, Super-Creamed	1	17	0	2 gross Ven-Yusa Toilet Soap	4 16 0
(Boxed in threes)					
1 gross do. (in doz. boxes)	1	16	0		
		6	8		
2½ % Cash Discount	0	3	3		
		6	5		
Bonus for Window Show...	0	15	0		
	£5	10	3		
				£8	8 0

PROFIT, £2 17s. 9d. = 52 %

C.E. Fulford Ltd. LEEDS & DUBLIN.

**100,000 LADIES
ARE NOW USING**



From 100,000 Sample Jars

**THEY ARE QUICKLY
COMING BACK
FOR THE 1/- SIZE**

Are You Ready ?

STOCK VEN-YUSA NOW!

£5 Bank Note for you!

1st Prize	....	£5 Bank Note
2nd "	....	£3 Cash
3rd "	....	£1 Cash
4 Prizes of	....	5s. Cash
25 "	....	"Glidon" Razors
(Protected retail 5s.)		

The above are unreservedly offered to those selling the largest amount of

"NU-TRO"

during JULY to OCTOBER
(WHOLESALE HOUSES EXCEPTED).

Goods are on SALE or RETURN. Any not sold may be returned.

"NU-TRO" is selling well where introduced. SHOWCARDS and HANDBILLS are supplied free.

"NU-TRO" is the guaranteed cure for SCURF and WEAK GROWTH, as proved by very many delighted users.

The following was recently received:

"For several years I have lost the hair from the crown of my head. I have tried various hair restorers, but none has given satisfaction. As regards your treatment, I must say I was astonished at the improvement in the growth even after only using two 2d. tins, as I had again prepared myself for the disappointment experienced by the use of other methods. You may make what use you like of this unasked-for testimonial, which I feel obliged to send owing to the entire satisfaction I have received by the use of 'NU-TRO.' (Signed) ARTHUR JOHN PEARCE.
24 Meadow Street, Pontycymmer, Glam."

20s. "NU-TRO" carriage paid in the United Kingdom.

Prices show Liberal Profit of 50 %.

3d. Jars	...	2s. dozen.
6d. "	...	4s. "
1s. "	...	8s. "
2d. Trial Tins	...	16s. gross.
1d. "	...	8s. "

"NU-TRO-SOL," the liquid essence of "NU-TRO," free from grease, 8s. dozen.

"NU-TRO" SHAMPOO POWDERS, 7s. 6d. dozen boxes of 7 powders.

SALES ARE GUARANTEED.

Send To-day and Start Sales Early.

"NU-TRO" CO.,

31, 33, 35 Lower Castle Street, BRISTOL.

Conditions of entry are only three:

- 1—If "NU-TRO" is for sale in two or more shops the number must be stated on order. Sales will be divided by the number to give the average for each shop. This gives all an equal chance, and offers the trader with more than one shop the opportunity to secure two or more prizes.
- 2—Any goods for return must be dispatched and advised on or before November 3, and reach us by November 10. Results will be advertised in the Trade Journals.
- 3—"NU-TRO" goods must be sold at full face value.

6d.

Make your old
Hat a new one.

In bottles, 6d. each, in separate neat cartons, with suitable brush.

These Dyes are a distinct invention, dyeing the straw without an objectionable varnished appearance, and producing the effect of new goods.



NO GLOSS.

NO POLISH.

On the
P.A.T.A.

Write for terms,
patterns, also leaf-
let of testimonials.

"Luton" HAT DYE

WHITAKER & CO., COLOUR WORKS,
KENDAL, ENG.

London Depot: 60-62 CLERKENWELL ROAD, E.C.

Special Non-Inflammable Series for Export. Est. 1878.
Telegraphic Address: "Dullette Kendal." Telephone: No. 214.

LATEST FINE SELLING NOVELTY

HAYDEN COFFIN

TOOTH POWDER

COMPRESSED, PTD.

(From a Prescription of his father, Dr. C. R. COFFIN).
NOT A SOAP. NOT A PASTE. UNIQUE ARTISTIC PUT-UP.

Now on Sale at

BARKER'S, HARRODS', SELFRIDGE'S,
WHITELEY'S, ARMY & NAVY STORES,
and leading WEST-END CHEMISTS'.

ALSO THE

HAYDEN COFFIN

HYGIENIC TOOTH BRUSH (Rgd.)

Retail Prices:

POWDER, 2s. 6d. BRUSH, 1s. 1d.

Trade Supplied by

HAYDEN COFFIN T. P.
39 VICTORIA STREET, LONDON, S.W.



We can claim with justice to be the Pioneers of the "Complete Testing Sample" system.

Every supply is sufficient to prove the real value of our preparations, so that each of the thousands of applicants is a prospective purchaser.

Be Prepared!

THE PICTURE TELLS THE SECRET

of the amazing popularity of Edwards' "Harlene" Co.'s Perfect Hair-growing and Toilet Preparations.

It is a fact that after 30 years' business we are doing better than ever—striking vindication of the value of our specialities and of the sample system as a means of securing the confidence of the public.

WE HAVE SPENT THOUSANDS

of pounds on sending out Free "Hair-drill" and "Astol" Outfits, but it has all come back—because people find our preparations are what we claim.

YOU SHOULD BENEFIT

by direct sales. What about your stock? If you can serve a customer once, be sure he or she will come again.

QUICK SELLERS — WIDELY ADVERTISED.

"HARLENE" HAIR TONIC.

"CREMEX" SHAMPOO POWDERS.

"ASTOL" HAIR-COLOUR RESTORER.

"ASTINE" TOILET PREPARATIONS, Etc.

A P.C. will bring our Price List, together with Dummies, Showcards, Counter Bills, etc.

EDWARDS' "HARLENE" CO.,
20-26 LAMB'S CONDUIT ST., LONDON, W.C.

VANISHING CREAM

NON-GREASY, PINK OR WHITE

During the past few years has entirely superseded greasy and fatty Toilet Creams.

Owing to the exceptional demand we have had for this preparation, we have laid down a special plant and can supply in bulk on the best terms, and incorporate any perfume required.

Packed in Tubes and Opal Pots.

Tin Tubes 3/- per doz., 33/- gross ; large size, 60/- gross.

Opal Pots, 1 oz., 3/6 ,, 39/- ,, ,, 78/- ,,

Also in 7 lb., 14 lb., 28 lb., and 1 cwt. drums.

SEND FOR A SAMPLE AND ASK FOR FULL PRICE LIST
OF OUR PREPARATIONS. IT WILL PAY YOU TO DO SO.

J. KNOX-WALKER & CO., LTD., Manufacturing Chemists,
422 KINGSLAND ROAD, LONDON, N.E.

SAMUEL VAUGHAN, *Managing Director.*

AMAMI MANICURE PREPARATIONS ARE THE BEST.

PRICHARD & CONSTANCE, 469 Holloway Rd., London, N.
SPECIALITY—AMAMI NAIL POLISHING STONE.

BRILLIANT PLATE. "ALBATUM OR WHITE ROUGE"

GIVES A UNIQUE POLISH TO ALL SILVER AND ELECTROPLATED GOODS.

In 6d. and 1/- Boxes, and Tins, 2/-

BRADLEY AND BOURDAS,
6 PONT STREET, S.W.

ROBARE'S AUREOLINE Or GOLDEN HAIR WASH.

4-oz. Bottles, 33/- 10-oz. Bottles, 66/- per doz.

Wholesale from R. HOVENDEN & SONS, LTD., and from all the principal Patent Medicine Warehouses in London.

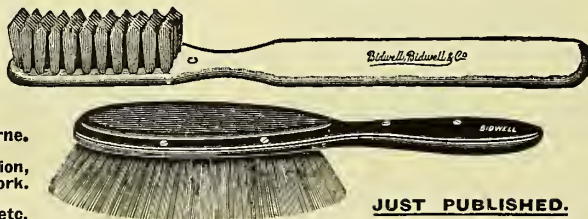


Australian Agents:
Potter & Birks, Ltd., Sydney.
Rocke, Tompsett & Co., Melbourne.
U.S.A. Agents:
Druggists' Supply Corporation,
118 William Street, New York.
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BUSH LANE HOUSE,
CANNON STREET, E.C.

Established 1839.

BIDWELL'S TOILET BRUSHES



JUST PUBLISHED.

Send for **NEW CATALOGUE.** It will interest you!



GOLD MEDAL
awarded
International Exhibition.

Works:

AXMINSTER,
DEVON.

MENTHOLATUM.

The Universal Ointment.

Samples Free.

SPECIAL
INTRODUCTION
OFFER.

200 per Cent.
Profit for an
Investment of
9/-.

Full particulars
on application.



Prices Protected on the P.A.T.A. List.

THE MENTHOLATUM COMPANY,
329 High Holborn, LONDON, W.C.

KYHO

Registered.

Registered.

(Protected by the P.A.T.A.)

The Wonderful New HAIR RESTORER

Cooling and refreshing to the scalp, promoting new growth and restoring the natural vigour of the Hair.

Contains no grease or colouring matter, yet has been found to revive the natural pigment.

Sold in bottles, 2/6; minimum retail price, 2/3.
To the Trade, 21/- per doz. from all the leading Wholesale Houses, or from the

KYHO PROPRIETARY, Ltd., 17 Victoria St., S.W.

A Special BRILLIANTINE and a SHAMPOO FLUID are also supplied to be used with KYHO. 1/- per bottle; 9/- doz. to trade.

For further particulars see our full page advt. in "The Chemist & Druggist," March 30, 1912.

The Best Paying 1d. Line is

SOFTO

FOR CHAPPED HANDS.

WHOLESALE PRICES.

1 gross "Softo" with 4 doz. bonus	-	-	6 0
1/2 gross " " 1 1/2 doz. " "	-	-	3 0
3 doz. " " 1 doz. " "	-	-	1 9

A Chemist writes: "Please send our goods immediately, as the 1 doz. 'Softo' was cleared in a day."

The SOFTO Manufacturing Co.
33 Edgware Road, Park Lane, W.

WHAT MEDICAL MEN THINK.

EURESOL PRO CAPILLIS

April 23, 1914.

Having tried your preparation I can definitely say it is the very best cure for dandruff that I have tried. I purposely say cure because I believe it to be so, since the small quantity has done my hair so much good. I have tried many other preparations but nothing really equals your Euresol.

May 7, 1914.

I have tried the sample of Euresol and find it quite the best preparation for the treatment of dandruff.

May 8, 1914.

I quite agree with you as to the value of Euresol. I tried it in my own case and found it relieved the almost intolerable itching which accompanies the dandruff in a marvellously short time.

May 12, 1914.

I thank you for the sample of Euresol you kindly sent me some time since. I have used it with marked success in a case of a lady whose hair was rapidly diminishing. The falling has ceased, and a new growth is making satisfactory progress; it is certainly the most efficacious remedy I have come across. I have recommended it to some dozen or more patients who are using it.

*Formulae for Euresol Scalp
Lotions on application.*

EURESOL HAIR TONIC

May 5, 1914.

Please send me another bottle of Euresol Hair Tonic for personal use. It is the best application for seborrhœa capitis that I have met.

May 6, 1914.

I have found Euresol Hair Tonic a most pleasant preparation to use, and that it greatly improves the appearance of the hair.

May 7, 1914.

Some time ago you kindly sent me a sample of your Euresol Hair Tonic. I am using it for my own hair, and have found it most beneficial. I feel sure the hair is now growing, and all irritation and scales have gone.

May 14, 1914.

The person upon whom it was used had his hair coming out very freely and the hair itself was very thin. Since using the Euresol Hair Tonic the hair is decidedly stronger, and is growing as well. When the hair is combed very little comes out now. I am so satisfied with the good results after using the Tonic that I shall prescribe it in all suitable cases that come under my notice.

May 17, 1914.

I am very pleased with it, and the result is almost marvellous if it continues. I have suffered from dandruff since I can remember, and nothing I tried did any permanent good. After using Euresol Hair Tonic on two successive days I have had practically no dandruff.

Wholesale Distributing Agents for Euresol Hair Tonic:—
Messrs. SANGERS,

258 EUSTON ROAD, LONDON, N.W.

One Dozen 17/-

Retail 2/-

P.A.T.A.

KNOLL & CO., LTD., 8 HARP LANE, LONDON, E.C.

Laurence Pountney Lane,
City, E.C. A.D. 1820.

Devon Wharf, Mile
End, E. A.D. 1905.

Devon Wharf and Bell Wharf,
Mile End, E. A.D. 1911.

Field's Select Preparations.

MESSRS. C. R. HARKER, STAGG & MORGAN, LIMITED, wish to remind pharmacists that for many years they have had the sole right to manufacture Field's well-known and highly esteemed pharmaceutical preparations. Being made with selected drugs and by the original processes improved on modern lines, these preparations well deserve their high reputation and are recommended as the finest that can be manufactured.

Inf. Gent. Co. Conc., Field's

Syrup Ficorum Co., Field's

Inf. Senegæ Conc., Field's

Liquor Sennæ Dulc., Field's, &c.

Special Price List on application.

ARKOL.

ARKOL is the registered title of a Liquid Paraffin of an unusually high degree of purity. It is **absolutely free** from taste and odour, and is by far the best form of Liquid Paraffin for internal use. Its quality never varies, and as a most effective remedy in Constipation it is rapidly acquiring a great reputation.

ARKOL is particularly suitable for administration to delicate ladies and children.

The H.S.M. Alcohol Recovery Still. (Patent, F. C. J. Bird.)

The best and most convenient apparatus for the recovery of spirit from Tincture Marcs, Essence Residues, &c. Recovers the whole of the Spirit at full strength. Now used by all the leading Wholesale Drug Houses and Mineral Water Essence Makers, &c. The apparatus is made in several sizes suitable for either Retail Chemists, Wholesale Druggists, or the largest manufacturers. Saves its cost in a few months. Booklet and full particulars on application.

WE ARE SPECIAL
MANUFACTURERS OF—

HAIR DYES (Laurence's)
STANDARDISED GALENICALS
AMYLIC ALCOHOL (for Milk Analysis)
HYDROCYANIC ACID, B.P.
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PETROLEUM EMULSION
SPIRIT OF SWEET NITRE
DURAPEDE (for the Feet)
AROMATIC SPIRIT OF AMMONIA
CASCARA PREPARATIONS
TEREBENE
CONCENTRATED LIQUORS FOR
TINCTURES, INFUSIONS & SYRUPS
MERCURIAL OINTMENT
NITROUS ELIXIR
BEEF AND MALT WINE
LIQUID ANNATTO
VITALACTINE (the ideal tonic
casein food).
BUTTER COLOUR
PHYSIOLOGICALLY
STANDARDISED PREPARATIONS

The

BUTILOX

Preparations for the Hair

are generally admitted by the trade and public alike to be all that "packed goods" should be. Style, appearance and efficiency in use leave nothing to be desired.

BUTILOX

Hair Renovator
Hair Tonic
Shampoo Powders
Brilliantines No. 1 & No. 2
Natural Hair Curler

mean Ready Sales, Handsome Protected
Profits and Repeat Orders.

Ample literature, free samples, dummies, show-cards, etc., supplied to promote sales.

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MANUFACTURERS OF—

CHEMICAL SYRUPS
ESSENCES AND COLOURS FOR
CONFECTIONERY
FRUIT ESSENCES
MILLED OINTMENTS
POWDERS (Ground in our own Mills)
FIELD'S PERFECTED SYRUP
OF FIGS
VETERINARY SPICES
COMPOUND LIQUORICE POWDER
RAT VIRUS
GELATINE-COATED HORSE-BALLS

Our Illustrated List of Packed Specialties

Pharmaceutical and Toilet
Preparations, put up for retail
sale with customer's name and
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to forward on application.

C. R. HARKER, STAGG & MORGAN, LTD.

OUR TRADE MARK.

Wholesale and Export Druggists,
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DEVON WHARF and
BELL WHARF.



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Manufacturing and
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Emmott Street, MILE END,
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Codes: A B C, 5th EDITION, & PRIVATE.

Laurence's HAIR DYES

(ONE SOLUTION)

ARE STILL THE BEST AND MOST RELIABLE IN THE WORLD,

and have had another year of remarkable progress and expansion.



Facsimile of Package.

Sales in all parts of the world have steadily and largely increased during the past twelve months. As we have pointed out before, this continued and rapidly spreading growth of business is a wonderful tribute to the efficiency of Laurence's Hair Dyes, built up solely and entirely on the sterling merits and power to fulfil all that is claimed on behalf of these now world-famous Dyes.



Facsimile of Showcard.

A permanent line of business, yielding over 100% protected profit, is ensured to all who handle this inimitable proprietary.

Purchasers of not less than Six dozen bottles, which may be assorted as to sizes and colours, in addition to our Bonus of eight bottles, will receive free of charge materials for creating a striking and attractive window display.

The net profit obtainable by the sale of six dozen bottles and bonus (1/6 size) is **£3 8s. 8d.**

Prices and profits protected by P.A.T.A.

Size.	Minimum retail.	Minimum wholesale.	} per doz. less 5% discount.
1/-	1/-	7/6	
1/6	1/6	9/-	
2/6	2/3	15/-	
3/6	3/3	21/-	

SPECIAL BONUS.

Buyers of 3 doz. bottles receive 3 bottles gratis (may be assorted any size).

Do. 6 doz. do. 8 bottles gratis.

Do. 12 doz. do. 18 bottles gratis.

Equivalent in the case of the size in most general demand—viz., 1/6 size, to 4/6, 12/- and 27/- respectively.

You cannot do better than to let us put a window display order in hand for you. Please ask at the same time for full particulars of the Prizes we are offering for the best Displays made during the year.

Sole Proprietors:

C. R. HARKER, STAGG & MORGAN

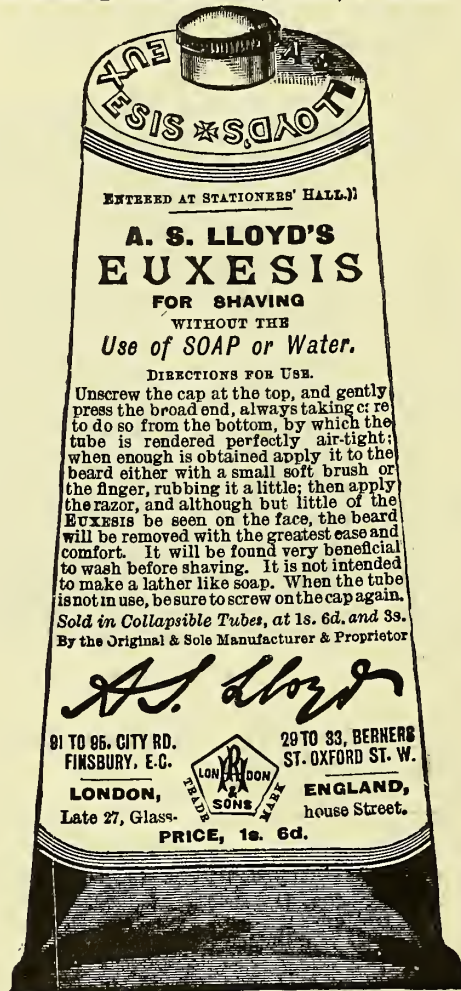
(Limited),

DEVON WHARF, Emmott St., Mile End, LONDON, E.

A. S. LLOYD'S EUXESIS

(THE GENUINE.)

For Shaving without Soap, Water, or Brush.



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY, and may be obtained at either of our Warehouses at the following prices:

10/- per dozen, 9/6 by the 3 dozen, 9/- by the 6 dozen.
Retail at 1/6 the Tube; 3/- size to order.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as Illustration.

Proprietors: **R. HOVENDEN & SONS, LTD.,**
LONDON: 29-33 Berners Street, W.; and 89-95 City Road, E.C.



London Agent: Mr. WALTER ELLIS,
116 Devonshire Road, Forest Hill, S.E.

OKELL'S ORIGINAL MONA BOUQUET

(First introduced by the late JOSEPH O'KELL).

Registered Trade Mark, "DOUGLAS PIER."

The most popular and best-selling perfume in the market.
Retail Prices ... 1/-, 1/9, 3/6, 6/-, 7/6, 10/6, per Bottle,
ALSO 3d. SAMPLE BOTTLES.

Shippers and Wholesale Buyers supplied on the best terms by:
THOMAS WEST & SON, 1187 Chester Road, MANCHESTER
Stretford.

Our ROSE, JASMIN & NEROLI Synthetics

can be used in the place of the Natural Oils to great advantage, at a much cheaper cost.

BLUE BAND BRAND

SICILIAN ESSENTIAL OILS,
guaranteed absolutely pure, from our own works in Messina.

**DIRECT IMPORTERS OF
FINEST VALENCIA SAFFRON,**
guaranteed genuine B.P.

SAMPLES AND PRICES ON APPLICATION.

FELICE BONAVENTURA & CO.,
98 Great Tower Street, LONDON, E.C.

Telephone No.:
Avenue 2743.

Telegraphic Address:
"Felibona London."

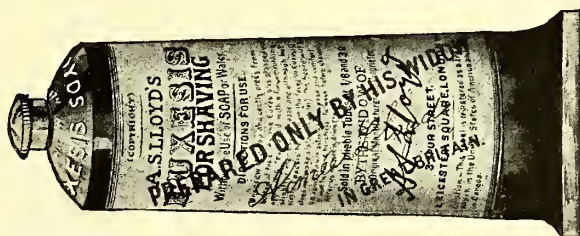
Ask for General Price List.

A. S. LLOYD'S EUXESIS

For Shaving
without
Soap, Water,
or Brush.

CAUTION to the TRADE

Labels on the genuine EUXESIS not only bear signature of A. S. Lloyd in Black Ink, but also "Prepared only by his Widow and signature of 'Aimee Lloyd'" in RED.



Sole Manufacturers and Proprietors :

AIMÉE LLOYD & Co.,

23 PANTON STREET
(Formerly named SPUR STREET),

HAYMARKET, LONDON, S.W.

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).



Stafford Allen & Sons, Ltd.

*Distillers and Importers
of*

ESSENTIAL OILS,

*Manufacturing Chemists,
Expressers of Almond Oil,*

Drug and Spice Millers

*Cultivators of English
Medicinal Leaves, Roots,
and Perfume Plants,*

Manufacturers

of

SOLID, GRANULATED & POWDERED
EXTRACTS, RESINS, OLEO-RESINS,

Liquid Extracts & Alcoholic Preparations.

WRITE FOR SAMPLES, QUOTATIONS and "THE HISTORY OF ALLEN'S ENGLISH."

*Flower Farms & Distillery : —
Long Melford, Suffolk.*

*Drug Mills & Factory :
Finsbury, London.*

Telegrams : "Persic London."

Telephone : L.W. 804.

ABC (4th & 5th Editions) and Lieber's Codes used.

*Registered Offices :
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Stafford Allen & Sons, Ltd.

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for

Almond Oil,

Croton Oil, Nutmeg Butter,

Compound Licorice Powder,

Pure Powdered Acacia, Tragacanth, Myrrh, Aloes,
Ginger, Rhubarb, Jalap, Orris, Soap, Turmeric,

Crushed Linseed

and Powders for Percolation.

Volatile Oils,

Anise, Caraway, Clove, Cassia, Eucalyptus, Geranium,
Juniper, Lavender, Orris, Patchouli, Rosemary,
Sandalwood, Peppermint.

Extracts,

Belladonna, Dandelion, Henbane, Cascara, Gentian,
Licorice, Male Fern, Nux Vomica, Opium, Ipecacuanha,
LIQUID, SOLID, GRANULATED, POWDERED.

Resins & Oleo-Resins,

Capsicum, Ginger, Cubeb, Jalap, Scammony.

Scale Preparations & Alcoholic Preparations.

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There are Perfumes and Perfumes

but nothing to surpass the famous

Eau de Lubin

(THE QUEEN OF TOILET WATERS).



No. 500. ... 2/9 size.
EAU de LUBIN.

We also stock in London :

MYRTIDA, MUGUALBA,

GERAROSE, VIOLALBA,

OEILLET-SOLEIL,

KIGRIZ, SOLA-MIA,

ENIGMA.

All the above are on the P.A.T.A.

Elegantly put up.

Show Good Profits.

Sell themselves if displayed.

PARFUMERIE LUBIN of PARIS.

WE INVITE YOU TO WRITE TO OUR

REPRESENTATIVE IN LONDON—

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A. W. SCHWARZ

**Chemical Manufactory,
ALTSTETTEN-ZURICH, SWITZERLAND.**

SYNTHETIC PERFUMES

Abricotine, Amber
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Bouvardine, Capucine
Carnation, Cassie
Castoreum
Chirassol, Citral
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Coumarine, Cyclamine
Fern liquid
Fixateur, Fleuréal
Gardenia, Genetol
Geraniol, Glycine

Géranium-Roseine
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Heliotropine, Honey
Honeysuckle
Hyacinth, Indol
Irine A., Irine B
Irine C., Irine D.
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Linalool
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Lily of the Valley
Lime Flower (Tilleul)
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Specialities :

Mimosa, Musc C.
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Narcissus, Neroli
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ESSENTIAL OILS

Special Violet
Sweet Pea
Thyme, Trefline
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Tuberose
Vanilline
Violet Flower
Violet Verdure
Violet d'Azour
Wallflower
White Violet
Ygeana
Ylangol (artificial)
Yranol

Price List and Samples on demand.

SOLID POWDER

(Poudre Compacte)

in gold metal boxes; white, rose,
cream, mauve, sunburn tint.

SHOW BOXES OF 1 DOZEN EACH.

Best Quotations for Wholesale.

Largest Novelty.

**PHARMAZEUTISCHE INDUSTRIE-GESELLSCHAFT,
OFFENBACH-AM-MAIN.**

Sole Agent for the United Kingdom :—

FRANK A. CONDUIT, Sutton House, 2 Old Street, E.C.



WILLIAM LASSON'S

Hair Elixir

has a 30 years' reputation and

Unique Hair Product.

All wholesale houses supply it.
Chemists & Druggists
should apply for

COLOURED ART PRIT,
a great help in pushing its sale.

Post free. Write to-day to

Sole Consignee :

M. LINDNER,

FARRINGTON AVENUE, LONDON, E.C.

A. Boake Roberts & Co., Ltd., STRATFORD, LONDON, E.

FOR

SOLUBLE ESSENCES. ESSENTIAL OILS. OIL LEMON, ORANGE, BERGAMOT, &c.

*If you wish to make first-class Aerated
Waters of unimpeachable purity, use*

BOAKE & ROBERTS' ESSENCES.

Finest Soluble Essences.

LEMON.	GINGER ALE.
ORANGE.	STONE GINGER BEER.
GINGER.	KOLA CHAMPAGNE.
RASPBERRY.	LIME JUICE & SODA.
STRAWBERRY.	LEMON SQUASH.
PINEAPPLE.	&c., &c.

Golden Caramel Colourings, &c.

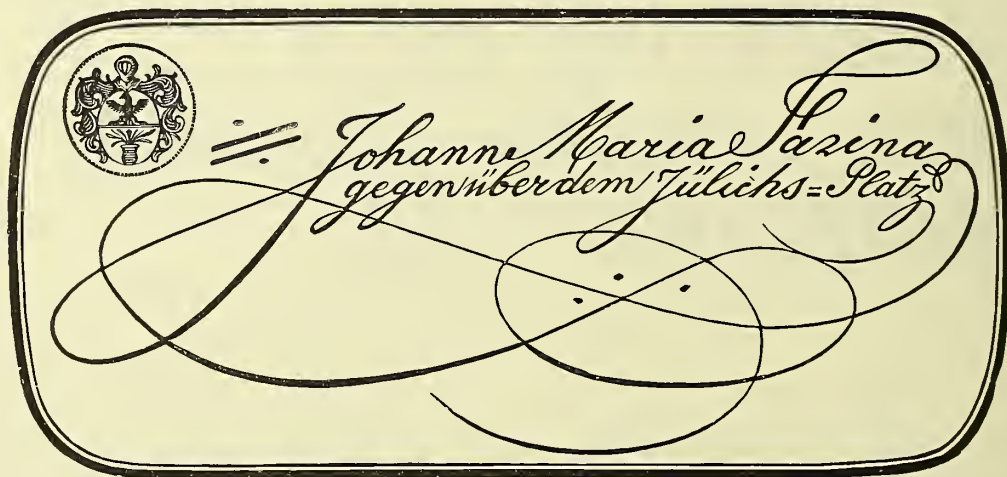
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APPOINTMENT
TO



HIS MAJESTY
THE KING.

"THE GENUINE" EAU DE COLOGNE

ALWAYS BEARS THIS LABEL.



For over 200 years, since 1709, its composition
has been the jealously guarded family secret of

JOHANN MARIA FARINA, GEGENÜBER DEM JÜLICHS-PLATZ, COLOGNE.

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JOHN JAKSON & CO.

(MITCHAM ROAD) LTD.

**WEST CROYDON,
SURREY.**

SEVEN FARMS
and THREE
DISTILLERIES
in SURREY.

Gold Medal

Paris
Universal
Exhibition,
1900

HORS CONCOURS
BRUSSELS, 1910.

MEMBER OF JURY
LONDON, 1912.

GHENT, 1913.

FRANCO-
BRITISH
EXHIBITION,
LONDON, 1908

Grand Prize

The highest awards for
the production of
**ESSENTIAL OILS OF
PEPPERMINT, LAVENDER
and CAMOMILE**

"DAMSCHINSKY'S" American Liquid Hair Dye

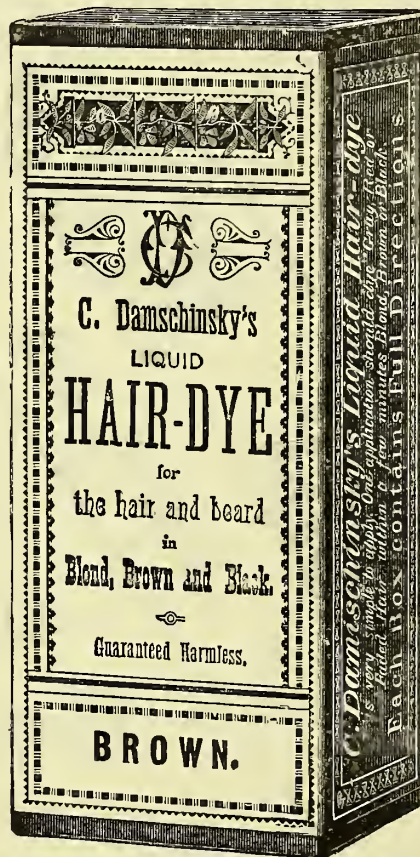
ONE PREPARATION.

FOR THE HAIR & BEARD (in Three Shades),
BLONDE, BROWN, & BLACK.

It contains no injurious substance. Dyes the Hair, whether grey or red, to any colour—from the finest blonde to the deepest black. It is efficacious and reliable. The oftener the colour is used, the darker becomes the shade of hair—so that the original colour of hair may be retained. It is a Dye, not a bleach. Will not give dark hair a light shade.



For orders of not less than 6 dozen, we give 1,000 Counter Bills with customer's own name and address as agent.



For quantities of not less than 2 gross, we print customer's own name and address on labels as agent.



PRICES :

1/3 Size :

9/- per Doz.

2/- Size :

12/6 per Doz.

CERTIFICATE.

This is to certify that I have examined C. DAMSCHINSKY'S LIQUID HAIR DYE, and find it to be free from all substances which might have an injurious effect, provided that the directions be adhered to. Especially is this preparation free from salts of lead and silver.

Dr. M. Hasenclever,

Wall Street, New York.

Analytical Chemist.

SOLE AGENTS FOR
GREAT BRITAIN:

OSBORNE, GARRETT & CO., LONDON, W.

“Erasmic”

WINDOW DISPLAY COMPETITION

2nd March — 30th June 1914

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1st Prize, £25.

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J. W. Harper,
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J. Barker, Leicester.
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Durbin's Drug Stores, Surbiton.
A. B. Sparrow, Southsea.

W. E. Coultas, Sheffield.
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T. Ridley, Carlisle.
H. T. Hines, Whitechapel. [W.
W. E. D. Shirtliff, Shepherd's Bush,

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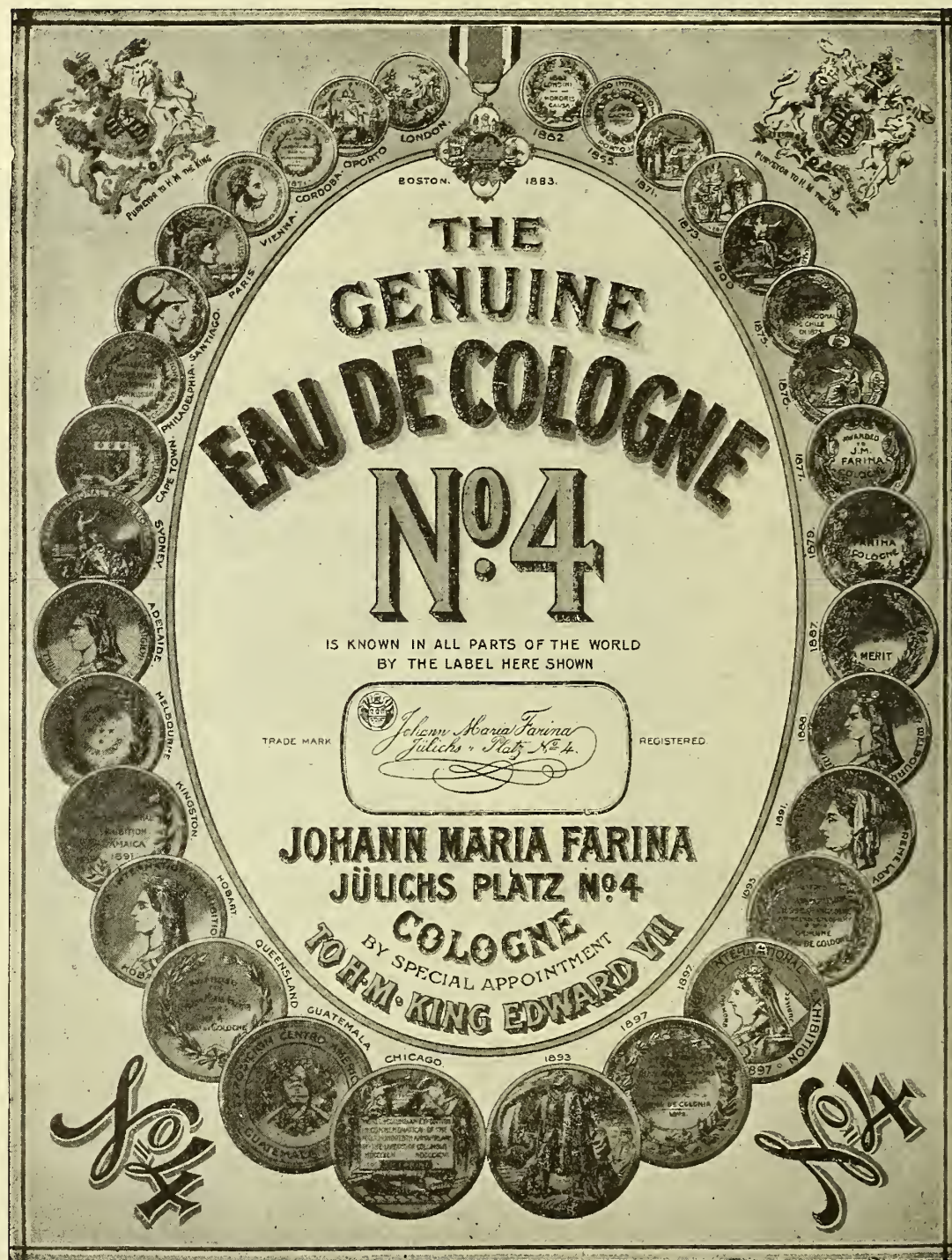
F. P. Peck, Burnley.
E. C. Giles, Cwm.
A. Wilson, Blyth.
W. T. Robson, Leith.
J. F. Blackhurst, Blackpool.
Woolley & Co., Leicester.
G. A. Cawkwell, West Ealing, W.
D. E. Lewis, Mardy, Glam.
P. Heppenstall, Goole.
D. L. Jones, Colwyn Bay.
C. Hamson, Peterborough.
C. F. Hird, Northallerton.
Benson's, Barrow-in-Furness.

R. A. Norris, Reading.
Lewis & Burrows, Ltd., London, W.
F. R. Bower, Cinderford.
W. Wigglesworth, Slough.
A. Roberts, Acton.
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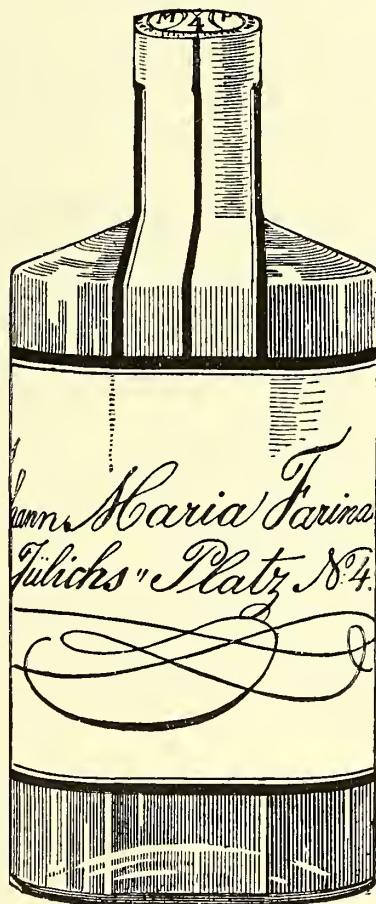
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4 oz. Glass.

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Cyclamen "N." used as a base for Cyclamen and Lily of the Valley.

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Fleur de Muguet, very finest perfume of the Lily of the Valley.

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Lines from a 1d. to a Guinea.

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**Write for our New Price List,
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and the beautiful drawings of her in colours and in black and white which are appearing in all the high-class periodicals are charming also, and sure to attract the right sort of attention to McClinton's Toilet Preparations, and bring fresh customers into your shop.

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Used and recommended by some 200 members of the British Aristocracy, and our guarantee of satisfaction or money refunded covers every preparation we manufacture.

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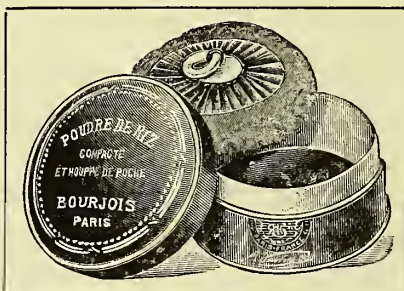
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SOLID FACE POWDER (POUDRE COMPACTE)

Bourjois of Paris
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Our Solid Powder, with Puff,
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IS THE BEST.



MADE IN SEVEN TINTS.

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" 5, 5b, 5½, 50 for 8 to 10 oz. Bottles 5d. "	" 8, Long for Wines... 9d. "

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Cannot be seen on the hair.

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SIX WRAPPERS ENTITLES TO A PAIR OF GLOVES.

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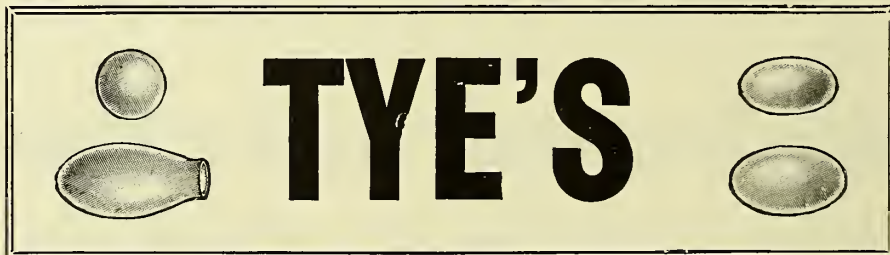
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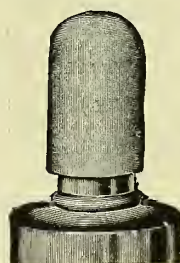
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„ 6, 6F, 60 for pints	6d. „
„ 39, for Winchester Quarts...	8d. „
„ 8, Long for Wines	10d. „

Stamping in Relief, Names, &c., 3d. per gross extra. Elastic Bands, small, 3d.; large 4d. per gross.

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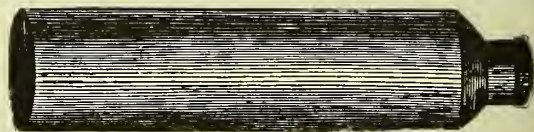
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Makers of Collapsible Tubes and Filling Machines for same. Patentees of Sprinkler and other Stoppers for Perfumes, Washes, &c. Screw Caps.

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For Safety Razors

Safety Razors kept in a Brytstele Bath do not require to be taken apart for cleaning or drying. Brytstele Solution keeps blades sharp for at least two months without stropping. Blades and Holders are kept bright, anti-septic, and free from rust.

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AS ILLUSTRATED.**

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Refill Bottles (4 oz.)	
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1s. 4d. each	11/- "

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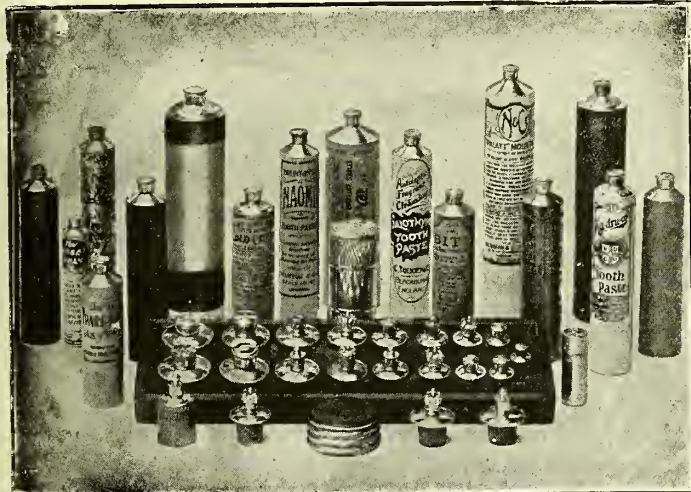
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Take the first step toward saving your money and saving your temper by ordering a few gross to-night for trial.

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	Per Gross, 1 in. long.	1½ in. long
Quality AZ (for tip-top business) ...	1/4	1/10
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10/- worth delivered free (British Isles). Reduction for quantities

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*White in colour & exceptionally
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Spirits of Wine

*All strengths to absolute
Alcohol, Duty paid.
Duty free for Export and
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Orange & Quinine,
Maintains its brilliancy permanently.
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strong African Tobacco waste and offal in
large quantities at inducing prices.*

*Also with firms open to act as Agents for our
products in Great Britain and the Colonies and
in Europe; good commission and liberal terms.*

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The sales of Bisurated Magnesia are at the present time beating all previous records, both at home and abroad, and many of our chemist friends are, without the slightest trouble, selling as many as three dozen bottles of this line each week.

Future.

It is our intention in the future to very largely extend our advertising appropriation in connection with Bisurated Magnesia, and during the next twelve months we look forward to creating a gigantic increase in an already extensive demand for this line.

Mint-Flavoured Tablets
10/6 & 20/6 per doz.

Powder
17/- & 26/6 per doz.

Effervescent Tablets
37/6 per dozen.

Considering our earnest efforts to increase sales to our mutual advantage, we respectfully urge all chemists to assist us and to hold good stocks of Bisurated Magnesia in each form. The Tokalon Guarantee of Sale covers every bottle you stock, which means you can return any unsold whenever you wish, for cash, or credit if you prefer it. We will gladly supply showcards for window or shop display and circulars for counter distribution.

*Supplies obtainable from any wholesaler or direct.
Circulars and Showcards should be applied for direct only.*

TOKALON LIMITED
212/214 Great Portland Street,
LONDON,
W.



G. B. KENT & SONS, Ltd.

Offices and Warehouse: 75 FARRINGDON ROAD, E.C.

Registered Telegraphic Address: "TRICHO LONDON."

Estd. 1777.

Telephone Nos.: 1407 and 4116 CENTRAL.

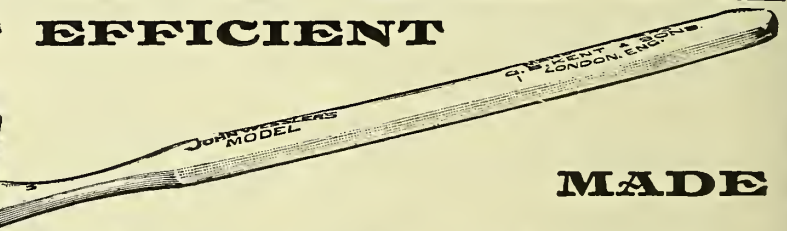
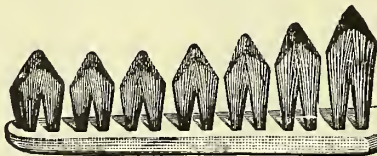
Steam Factories:
**ROBINSON ROAD,
VICTORIA PARK.**



And River Gade Factories:
**HEMEL HEMPSTEAD,
HERTS.**

Australian Factory: 34a SWAN STREET, RICHMOND, MELBOURNE.

THE MOST EFFICIENT



MADE

is **"JOHN WESSLER'S MODEL."**

Australasian Agents: Messrs. FRANCIS FORREST & CO., 120 Queen Street, Melbourne.

Canadian Agents: Messrs. LYMANS, Ltd., Montreal.

South African Agency: Mr. C. F. COCKSEGE, P.O. Box 422, Capetown.

Agent in India, Burmah, and Ceylon: Mr. WM. MOORE, c/o Messrs. Grindlay, Groom & Co., Bombay.

Agent in the West Indies: Mr. F. N. MARTINEZ, Barbados.

Agent in the River Plate: Mr. WM. BURMESTER, Calle Bolivar 240, Buenos Ayres.

United States Agency: Messrs. McKESSON & ROBBINS, 91 & 93 Fulton Street, New York.

Agents in Havana: THE INTERNATIONAL COMMISSION CO., Obrapia 25, Havana.

Paris Agency: MM. PITET Ainé et Cie, 51 Faubourg Poissonnière.

Brussels Agency: LA PARFUMERIE, 49 Rue Fossé aux Loups.

Agent in Egypt: Mr. VASCO BIGIAMI, P.O. Box 249, Cairo.

Agent in Russia: Mr. JACQUES CHMAIEVSKI, Gavannia 3, Odessa.

Agent in British East Africa: Mr. J. GRAHAM DAWSON, P.O. Box 216, Nairobi.

FULL LIST OF ILLUSTRATED CATALOGUES AS UNDER.

- | | |
|--|---------------------------|
| 1. TOILET BRUSHES | July 1914. |
| 2. NEW CENTURY LIST OF TOILET BRUSH ILLUSTRATIONS. | |
| 3. RETAIL LIST OF HOUSEHOLD BRUSHES, &c. | July 1914. |
| 4. BOOK OF TOOTH BRUSH ILLUSTRATIONS. 20 pages | Showing 71 Illustrations. |
| 5. PHOTOGRAPHIC GOODS (WHOLESALE). 4 pages. | |
| 6. PHOTOGRAPHIC GOODS (RETAIL). 8 pages. | |
| 7. PAINTING BRUSHES. "BEST BRITISH BRUSHES" | Issued Jan. 1914. |
| 8. PAINTING BRUSHES. ORANGE LIST—containing "FRINNEBY'S OPTIMUS," the "FARRINGDON," "VICTORY" and "UNION" | Issued Jan. 1914. |
| 9. HOUSEHOLD BRUSHES... .. | July 1914. |
| 10. SUNDRIES | May 1914. |
| 11. SUPPLEMENT OF NEW PATTERNS AND ALTERATIONS... .. | Issued Monthly. |

IF YOU HAVE NOT RECEIVED COPIES OF THE ABOVE, WILL YOU KINDLY WRITE FOR ANY YOU MAY REQUIRE.

Manufacturers of every description of Brushware.

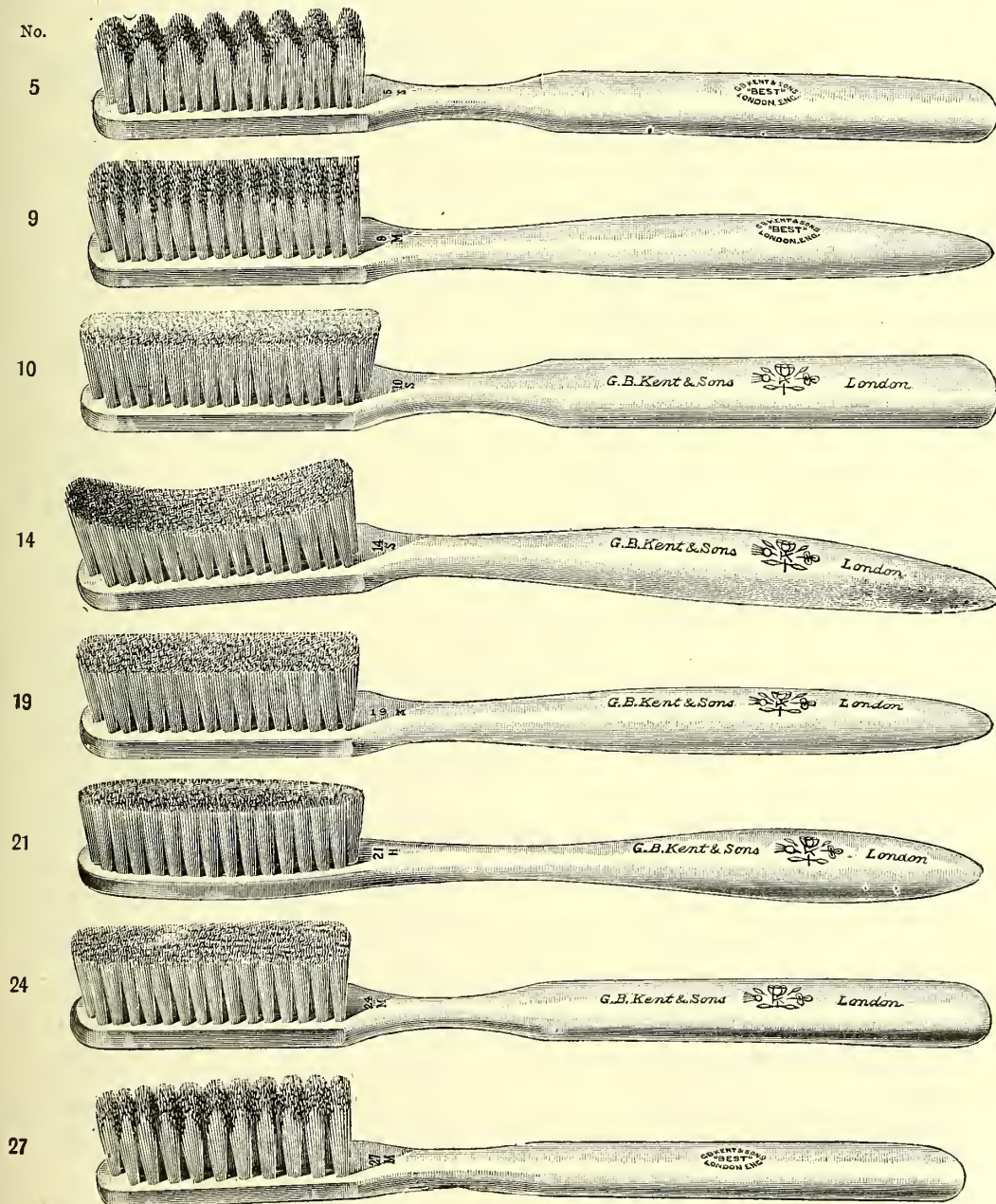
BEST BRITISH BRUSHES.

KENT'S 'BEST' BRITISH BRUSHES

Good
Selling
Assortment
of 16 patterns

This assortment is strongly recommended as containing the most popular and saleable patterns in 'Best' Tooth Brushes. We keep a large stock of these favourite patterns in the various stiffnesses ready for immediate supply.

6/6
PER DOZEN
75/-
PER GROSS
Ladies' or Gents



G. B. Kent & Sons, Ltd., London, E.C.

The
KOH-I-NOOR
TOOTH-BRUSHES

Are made in three degrees of stiffness to suit the ideas of customers.

The handles are flexible and of various colours and shapes.

In their manufacture only the best materials are used and the **FINISH IS THE FINEST ON THE MARKET.**



Unlike the ordinary Tooth-brush, the bristles of a

"KOH-I-NOOR"

do not come out, and it is practically impossible to pull them out even by force.

Thus you can safely recommend them to your customers and obviate complaints.

Try a sample case No. 517 from your Wholesale House to test the sale and you will soon stock other lines also.

Attractive Show-cards supplied with every order.

"KOH-I-NOOR" Tooth-Brushes are being extensively advertised to the Public, and they show the Retailer a good profit.

BEETHAM'S *Regd* **Larola**

**IS THE SKIN TONIC AND EMOLLIENT
FOR ALL SEASONS**

**It is Invaluable after Golfing, Motoring,
Yachting, Cycling, Skating, etc.**

It is effective after all outdoor Exercises.

It is attractive.

It is well advertised.

It sells readily.

It bears a good profit.

IT IS ON THE P.A.T.A.

Booklets, Picture Post-Cards and Showcards sent to help you sell it.

SELLS WELL IN THE COLONIES AND IN ALL HOT CLIMATES.



**Have you got our Large
Showcard, 24 x 18?**

It is very attractive and will help Sales.
We have also just had three new smaller
ones done, and shall be glad to send
them free to any of our Retail friends
who will kindly make use of them.

*Please cut this corner off
and send to us, duly
signed, and you will
get them by return.*

Please send to the undersigned, free of all cost, your
3 New Showcards
1 Large ditto
Name _____
Address _____

**M. BEETHAM & SON,
CHELTENHAM.**

Telegraphic Address:
"CRESSWELL, WESTCENT, LONDON."

WORLD'S HEADQUARTERS FOR

Telephone:
No. 1432 HOLBORN.

SPONGES

INTERNATIONAL SPONGE IMPORTERS, LIMITED.

CRESSWELL BROTHERS

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers, [BRANCH.
18 & 19 RED LION SQUARE, New Warehouses and Steam Bleacheries, LONDON, W.C.
45 EAGLE STREET.

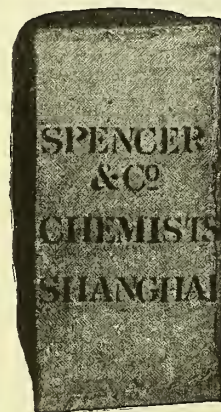
LARGEST SPONGE WAREHOUSES IN THE WORLD.

Buyers are invited to call to inspect our Magnificent Stocks and make their own Selections. Lowest Market Prices. Absolutely Best Values. The following abridged List will serve as a guide to Buyers when writing.

UNBLEACHED MEDITERRANEAN SPONGES in Original Cases.

HONEYCOMB.				HONEYCOMB.				HONEYCOMB.				FINE TURKEY CUPS				FINE TURKEY			
Extra Choice.				Toilet & Bath				3rd Shape, Toilet & Bath.				1st Quality.				SOLIDS.			
FINEST TEXTURE and SHAPE.				Good 2nd Quality.				Largest Sponges				PICKED SHAPES.				SELECTED SHAPES.			
The Pick of all the Fisheries.				Average obtainable at the prices.				Average				Average				1st Quality			
Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.	Pieces in Case.	Average Price per Piece.
400 Toilet	at 6d.	200	at 6d.	330	at 2d.	250	at 6d.	300	at 2d.	250	at 1/3	300	at 1/3	200	at 1/3	300	at 1/3	200	at 1/3
300	" 9d.	180	" 9d.	300	" 3d.	250	" 6d.	250	" 6d.	250	" 1/6	200	" 1/6	200	" 1/6	200	" 1/6	200	" 1/6
250	" 1/-	170	" 1/-	280	" 4d.	250	" 4d.	250	" 4d.	250	" 1/9	200	" 1/9	200	" 1/9	200	" 1/9	200	" 1/9
200	" 1/6	160	" 1/6	250	" 6d.	250	" 6d.	250	" 6d.	250	" 2/-	200	" 2/-	200	" 2/-	200	" 2/-	200	" 2/-
160	" 2/-	160	" 2/-	200	" 8d.	200	" 8d.	200	" 8d.	200	" 2/6	200	" 2/6	200	" 2/6	200	" 2/6	200	" 2/6
140	" 2/6	150	" 2/6	180	" 9d.	180	" 9d.	180	" 9d.	180	" 3/-	200	" 3/-	200	" 3/-	200	" 3/-	200	" 3/-
120	" 3/-	140	" 3/-	160	" 1/-	160	" 1/-	160	" 1/-	160	" 4/-	200	" 4/-	200	" 4/-	200	" 4/-	200	" 4/-
100	" 3/6	120	" 3/6	140	" 1/3	140	" 1/3	140	" 1/3	140	" 5/-	200	" 5/-	200	" 5/-	200	" 5/-	200	" 5/-
90 Medium Bath	4/6	110	" 4/6	120	" 1/6	120	" 1/6	120	" 1/6	120	" 6/-	200	" 6/-	200	" 6/-	200	" 6/-	200	" 6/-
80	" 5/6	90	" 5/6	100	" 1/9	100	" 1/9	100	" 1/9	100	" 7/-	200	" 7/-	200	" 7/-	200	" 7/-	200	" 7/-
72	" 6/6	80	" 6/6	90	" 2/-	90	" 2/-	90	" 2/-	90	" 8/-	200	" 8/-	200	" 8/-	200	" 8/-	200	" 8/-
60	" 7/6	75	" 7/6	80	" 2/6	80	" 2/6	80	" 2/6	80	" 9/-	200	" 9/-	200	" 9/-	200	" 9/-	200	" 9/-
45 Large Bath	8/6	70	" 5/-	60	" 3/-	60	" 3/-	60	" 3/-	60	" 10/-	200	" 10/-	200	" 10/-	200	" 10/-	200	" 10/-
30	" 10/6	65	" 5/6	45	" 4/6	45	" 4/6	45	" 4/6	45	" 11/-	200	" 11/-	200	" 11/-	200	" 11/-	200	" 11/-
24	" 12/6	60	" 6/6	30	" 5/-	30	" 5/-	30	" 5/-	30	" 12/-	200	" 12/-	200	" 12/-	200	" 12/-	200	" 12/-

THE CONTENTS OF THE ABOVE CASES WILL BE PRESS-PACKED AND SENT POST FREE TO COLONIAL AND FOREIGN BUYERS WITHIN THE RADIUS OF PARCELS POST.



IMPORTANT NEW DEVELOPMENT.

SELECTIONS OF SPONGES TO SUIT CHEMISTS
SENT BY PARCELS POST, POSTAGE PAID
TO ANY PART OF THE WORLD.

A large number of Chemists in various parts of the world have lately been in the habit of ordering assortments of Sponges press-packed, by parcels post, thus buying in the cheapest manner and incurring no cost of freightage.

We compress the sponges in order that a large number may be packed and sent in a small space. All that is necessary is that the Sponges be placed for a short time on arrival under damp cloths, when they will swell out and assume their original size and shape.

Chemists, therefore, have the benefit of receiving a selection of Sponges, "freight free to destination," and they can rely upon that selection being one eminently suitable for their trade. When ordering it should be stated whether first or second quality is required.

We have now gone thoroughly into the question of supplying Chemists by the method described above and have pleasure in quoting the following selections:-

Showing Package as ready for dispatch.

Selection "A"—1 dozen choice Unbleached Honeycomb Toilet and Bath Sponges, suitable for best-class trade, each at 12/-, 24/-, 36/-, 48/-, and 72/- per dozen. 1 dozen choice Unbleached Turkey Cups, each at 24/-, 36/-, and 48/- per dozen ... value £15 0s. 0d.
Selection "B"—1 dozen Unbleached Honeycomb, Medium quality, for Toilet and Bath use, each at 12/-, 18/-, 24/-, 36/-, 48/-, and 60/- per dozen. 1 dozen Unbleached Turkey Cup Sponges, each at 24/-, and 36/- per dozen ... value £12 18s. 0d.
Selection "C"—1 dozen Unbleached Honeycomb, large for the money, suitable for the Drug Store trade, each at 12/-, 16/-, 21/-, 24/-, 30/-, and 36/- per dozen. 1 dozen cheap Turkey Toilet Sponges at 18/-, 24/-, and 30/- per dozen ... value £10 11s. 0d.

Each Sponge ticketed and numbered to correspond with invoice. Remittance to accompany order.

All orders will receive our prompt and careful attention and will be dispatched to any part within the radius of the parcels post "free." These Selections can be ordered through Merchants in the usual way.

Chemists can order other selections in accordance with their particular requirements. The selections we have quoted are, generally speaking, assortments suitable for a restocking order.

TERMS 2½% CASH WITH ORDER.

LOOSE GOODS DEPARTMENT

Where Honeycomb, Turkey, and Cuban Sponges, Bleached or Unbleached, are sold in smaller quantities to suit customers' requirements. Large and varied selections always on show at lowest market prices.

LOOFAHS (Vegetable Sponge). In original compressed bales, as imported from Japan.

Size 8 by 10 inches, about 5,000 pieces in Bale.

" 10 " 12 " " 4,500 " "

" 12 " 14 " " 3,500 " "

Size 14 by 16 inches, about 2,500 pieces in Bale.

" 16 " 18 " " 1,800 " "

18 inches and upwards, " 1,200 " "

We will send lowest prices on application.

Prices for Loofahs swollen out, and ready for sale at per gross: 9/-, 12/-, 18/-, 24/-, 30/-, 36/-, 42/-.

SOME OF THE "VASELINE" SPECIALITIES AND THEIR PRICES.

Yellow.

PENNY TINS ...	...	...	7/- per gross.
TWOPENNY TINS ...	...	...	13/- "
No. 1 size, in boxes of 1 gross	...	...	18/6 "
" 1 " " 3 dozen	...	...	18/9 "
" 2 " " 1 "	...	...	37/- "
Collapsible tubes, No. 1 size, 2/6.	No. 2 size, 5/- doz.	...	...
No. 1 size, bottle, in cardboard case	...	...	3/- per doz.
" 2 " " " "	...	...	5/- "
1/2-lb. tins, round	...	...	6/3 "
1 " " square	...	...	10/6 "
5 " " " "	...	...	30/- "
10 " " " "	...	...	5/- per tin.
25 " " " "	...	...	12/- "
50 " " " "	...	...	23/- "

White.

Twopenny Tins (three doz. in box)	...	...	13/6 per gross.
Collapsible tubes, No. 1 size	...	...	3/6 per doz.
" 2 " " "	...	...	5/6 "
Blue Seal, in bottle, carton	...	...	3/6 "
No. 1, 3-oz. size, in cartons	...	...	6/- "
" 2, 6-oz. " "	...	...	10/- "
1/2-lb. tins, round	...	...	10/- "
1 " " square	...	...	20/- "
5 " " " "	...	...	60/- "
10 " " " "	...	...	9/3 per tin
25 " " " "	...	...	22/- "
50 " " " "	...	...	41/8 "

Red or Veterinary.

1/2-lb. tins, round	...	...	4/- per doz.
1 " " square	...	...	6/8 "
5 " " " "	...	...	22/- "
10 " " " "	...	...	3/6 per tin.
25 " " " "	...	...	7/6 "
50 " " " "	...	...	13/4 "
Half-barrels, about 1 1/2 cwt.	...	...	28/- per cwt.
Barrels, about 3 cwt.	...	...	24/6 "

Carbolated-Veterinary.

1-lb. tins	...	...	7/- per doz.
5 " " "	...	...	2/- per tin.
10 " " "	...	...	3/8 " "

Sulpho for Dogs.

In jars	...	...	9/3 per doz.
In 5-lb. tins	...	...	4/8 each.
10-lb. tins	...	...	8/- each.

White Liquid.

No. 0 size bottle	...	...	8/3 per doz.
" 1 " "	...	...	16/6 "
" 2 " "	...	...	24/9 "
1 gallon cans	...	...	10/4 per tin.

Analgic ... 9/- per doz. tubes.

Borated ... 4/3, 7/6 "

Camphorated 5/-, 7/6 "

Capsicum ... 5/7, 9/- "

Carbolated ... 4/3, 7/6 "

Mentholated 5/7, 9/- "

Oxide of Zinc 5/7, 9/- "

Perfumed White.

Collapsible Tubes	...	...	4/6
No. 1 (bottle in carton)	...	...	8/6 per doz.
No. 2 size, handsome bottle in carton, with glass stoppers	...	...	12/6 "

Hair Tonic.

No. 1 size	...	...	9/- per doz.
" 2 " "	...	...	18/- " "

Pomade.

No. 1 size, in boxes of 1 gross	...	...	20/6 per gross.
" 1 " " 3 dozen	...	...	21/- "
" 2 " " 1 "	...	...	62/- "
Collapsible tubes	...	...	2/10 per doz.
No. 1 size, bottle, in cardboard case	...	...	3/11 " "
" 2 " " "	...	...	7/10 " "
White and Quinine Pomade	...	...	8/6 " "

Perfumed Oil.

One size, in bottles (for the Hair)	7/- per doz.
-------------------------------------	-----	-----	--------------

"Vaseline" Soaps.

UNSCENTED.

3d. tablets, boxes of 1/2 doz. tablets, 27/- per gross tablets.

PERFUMED.

3d. tablets, boxes of 1/2 doz. tablets, 27/- per gross tablets.

SUPERFINE.

Delicately perfumed, box of 3 tablets, 5/- per doz. tablets.

TAR.

3d. tablets, boxes of 6 tablets ... 27/- per gross tablets.

"VASELINE" is the Registered Trade Mark of the

CHESEBROUGH MANUFACTURING CO.,

(CONSOLIDATED) NEW YORK,

42 HOLBORN VIADUCT, LONDON, E.C.

Complete Price List sent on application.

There's bound to be a big demand for

ANZORA CREAM

this holiday ————— because ANZORA

Masters the hair

WITHOUT THE AID OF OIL OR GREASE

80 % Protected Profit for you

Order through your Wholesaler and send a postcard to us for Advertising Literature

Trade } 11/6 per doz., retailed at 18/-
Terms } 19/6 „ „ „ „ 30/-

The Anzora Perfumery Co.,
32 34 Willesden Lane, London, N.W.

THE NEXT OPPORTUNITY

for distributing Price Lists or Circulars to the trade will be the
WINTER ISSUE of THE CHEMIST & DRUGGIST
to be published JANUARY 30, 1915.

FOR PARTICULARS APPLY TO THE PUBLISHER, 42 CANNON STREET, LONDON, E.C.

Telegraphic Address: "Champagne Manchester."

Telephone: 138 Pendleton.

B. ROBINSON & Co., LTD., PENDLETON, MANCHESTER

Established
1855.

ORIGINAL

Excise Drawback on
Export Orders.

CONCENTRATED WATERS.

STANDARDISED TO B.P. 1898.

When diluted in the proportion of one part to forty parts of water at 60° temperature, they faithfully represent the Medicated Waters of the British Pharmacopoeia. They are always of uniform strength, and will keep good any length of time in any climate.

Ess. Amygd. Amar. Conc. (U.S.)	4/- per lb.	Aqua Cassia Conc.	4/- per lb.	Aqua Menth. Virid. Conc.	4/- per lb.
Anethi, Concent.	4/- "	" Flor Aurant.	8/6 "	" Pimentæ "	4/- "
Anisi "	4/- "	" Sambuci Conc.	8/6 "	" Pulegii "	4/- "
Camphoræ "	4/- "	" Fœniculi Conc.	4/- "	" Rosæmarini "	4/- "
Carui "	4/- "	" Menth. Pip. Conc.	4/- "	" Rosæ "	8/6 "
Cinnam. Ver. Conc.	6/- "	" Ang. Conc.	6/- "	" Virgin "	10/6 "

The above may be had in ½-lb., 1-lb., or 1-lb. Bottles and upwards, through most of the Wholesale Drug Houses.
Each Bottle has the Inventor's Protection Label over the Cork, without which none are genuine.

PURE ORANGE WINE

(VINUM AURANTI. B.P. 1898).

Samples of any of the above, sent free on application

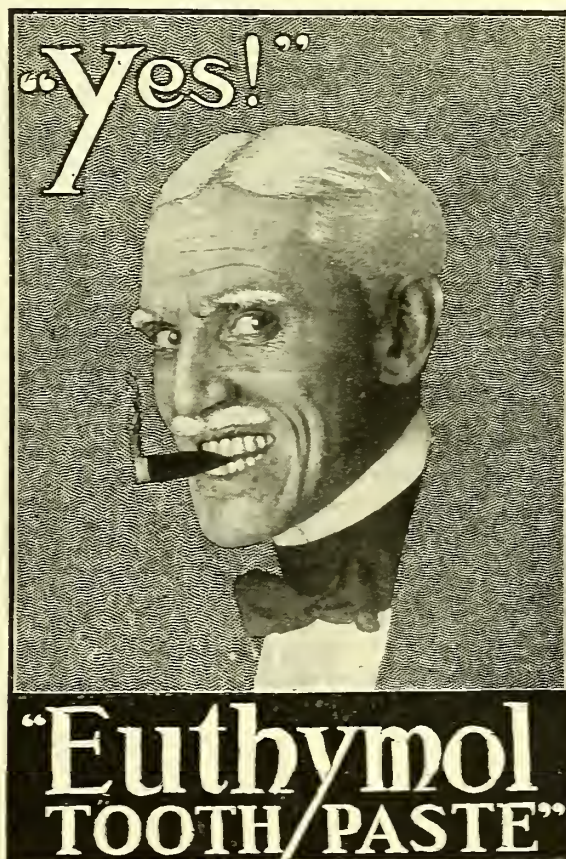
When you are asked—

Whether there is a dentifrice which, in the strength applied to the teeth, really exerts any appreciable germicidal power within the time ordinarily devoted to the dental toilet,

*You can
answer—*

This design (in three colours) is being used as a poster (19 by 30) in our Euthymol Tooth Paste publicity.

Would you like one for your window? Ask for a No. 6 Poster on your next order.



BUY on Display Terms

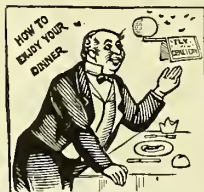
(particulars may be had on application), and benefit by our Advertising.

Every customer convinced means that the full profit on the sale of many dozens of Euthymol Tooth Paste will find its way into your till.

PARKE, DAVIS & Co. (T.J. 6), 50-54, Beak Street, LONDON, W.

THE "FLY CEMETERY."

FREE FROM POISON.



The ORIGINAL, and by far the BEST of all Sticky Fly Papers.

5/- per gross net carriage paid.

CASH WITH ORDER.

THE "CEMETERY" FLY BAND.



The neatest, simplest, cleanest and most convenient of Band Catchers, having a larger catching surface than any other fly catching device.

Packed in boxes containing 3 dozen.

7/- per gross net, carriage paid.

CASH WITH ORDER.

All the above Fly Catchers are so made that they keep in good condition from one season to the next; the Manufacturers, however, will exchange any old stock free of cost, provided that it is returned to them carriage paid.

Manufacturers: **TUNBRIDGE & WRIGHT, READING.**

London Depot—20 LITTLE BRITAIN, E.C. North of England Depot—4 GALLOWGATE, NEWCASTLE-ON-TYNE.

Telegrams—"FLIES READING."

THE "CATCHO" FLY PAPER.

A Cheaper but Reliable Sticky Fly Paper.

4/6 per gross net, carriage paid.

CASH WITH ORDER.

THE "CEMETERY" FLY TAPE.



A Fly Catcher in the form of a gummed strip, $\frac{1}{8}$ in. wide. Very neat, simple and efficacious. Made in two forms, round and square, packed in boxes containing 3 dozen.

6/6 per gross net, carriage paid.

Two gross lots and upwards, 6/- per gross net, carriage paid.

CASH WITH ORDER.



DR. MACKENZIE'S Catarrh Cure SMELLING BOTTLE.

Dealers in Patent Medicines should always Stock

"MACKENZIE'S CURE."

It is well got up, sells at sight, bears a large profit, and wherever introduced has a rapid sale, giving satisfaction to both buyer and seller.

Sent out in Fancy Cardboard Boxes containing half a dozen bottles.

PRICE ONE SHILLING.

May be obtained from all Wholesale Patent Medicine Warehouses.

SHOWCARDS AND HANDBILLS FROM



The New Flat Pocket-shaped "Mackenzie" Bottle.

For the Waistcoat Pocket.

Price One Shilling.

MACKENZIE'S CURE DEPOT, READING, ENGLAND.



A FLYING RECORD!



ENDS IN
DISASTER
TO
THOUSANDS OF FLIES
caught by the Patent Penny
“COBWEB”
FLY PAPERS.

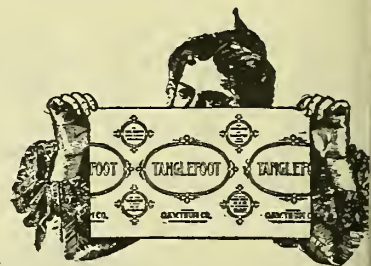
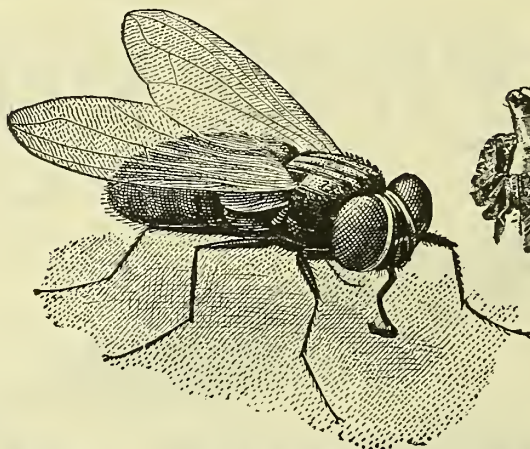
“Cobweb” & “Grip” Fly-Papers, 5/-gross, CARRIAGE PAID.

Postal Address:

CHRISTY STRONG, 115 CHATHAM STREET, READING.

Telegraphic Address — “STRONG READING.”

See below
about New Size
Tanglefoot Flypaper.



SIR JAMES CRICHTON BROWNE,

in his Presidential speech at the Annual Conference of the Sanitary Inspectors' Association, on August 6, said: "The Fly-plague in South Africa was markedly diminished wherever punctilious care in the prompt removal of all refuse from the vicinity of the camp was combined with a liberal use of **TANGLEFOOT FLY PAPER.**"—*The Times*, August 9 '02.

PRICES:

1 Case (containing 10 Cartons) ... **15/-**, carriage paid 1/- extra.
5 per cent. Reduction on 5-case orders.

Sample Packet, 150 Sheets **5/-** post paid.

Every sheet Hermetically Sealed.

50 Sheets, like above, in a cardboard box.

10 Cartons in a Case.

Original Crates contain 10 Cases.

Sells—2 sheets for **1½d.**



HAVE YOU HEARD of NEW SIZE TANGLEFOOT

Size 8 inches by 14 $\frac{1}{8}$ inches.

Same good quality as the TANGLEFOOT we
have always supplied, but a little smaller.

You sell the DOUBLE SHEET for ONE PENNY.

226 inches super. of the FLIES' World-wide
ENEMY for ONE PENNY.

150 Sheets Postal Packet	...	...	...	...	4/6
One Case 400 Sheets (8 Cartons)	...	...	...	...	10/6

Carriage Paid in U.K., 1/- extra.
Original crates contain 12 cases.
5% off on orders for one crate.

Sold by all Sundry Houses or the Sole Importers:

ALABASTINE CO. (British) Lim.
CHURCH STREET, SOUTH LAMBETH,
LONDON, S.W.



I'M OFF TO MARS

CAUGHT ALL BUT ONE & I'LL HAVE HIM SOON

FREE FROM FLIES

THE DOOMO AIRSHIP FLY BAND

1d. ea.
PATENTED

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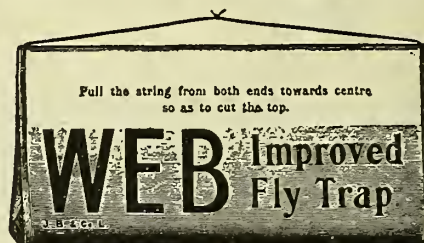
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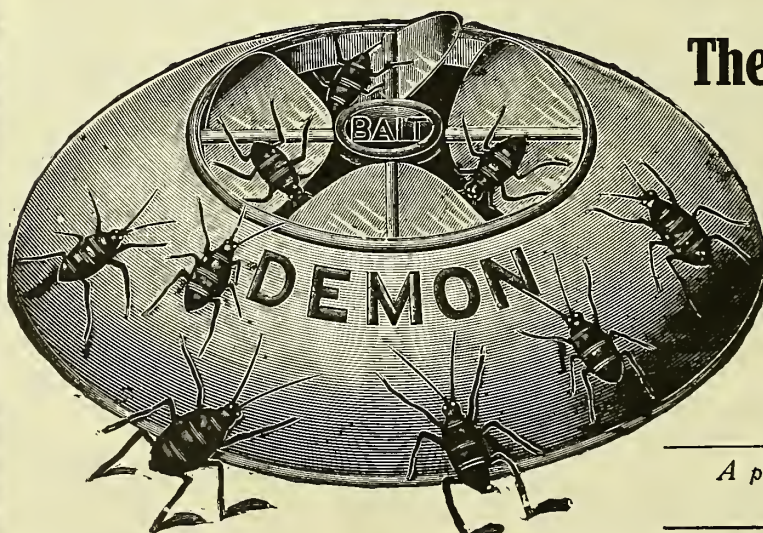
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Liquid Dips.
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Attractively packed with Agent's
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For Wounds.

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Profit of 75%
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LIQUID VIRUS for large applications at 7/6 a bottle, making about 5 lb. of bait.

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Destroys RATS, COCKROACHES, &c.

Sold in 3d., 6d. and 1s. Glass Jars, and 2s. 6d. Tins.
Warranted for Home and Export Trade.

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**KILLS BUGS, FLEAS, MOTHS, BLACKBEETLES,
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Sold in 3d., 6d. and 1s. Tins with Perforated Tops,
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TINS
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the new preparation,
containing no poison,
for killing nits in children's hair, is now being extensively advertised and may be obtained through any of the usual wholesale houses, or direct from the proprietor:

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Mr. PERCY HORNE, Chemist, Bourton-on-the-Water, writes: "Please send another £1 lot of 'RODINE' Rat Poison. I find it sells readily and gives satisfaction."

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Autumnal Catarrh,
Rose Fever, &c.

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(LIQUID, POWDER AND ALSO SALVE).

Specific Antidote for Pollen Toxine. FOR EXTERNAL USE.

Patented in Germany, England, The
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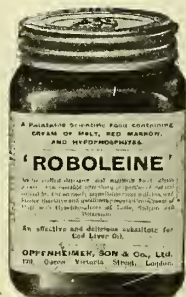
follows on meritorious products. Irrespective of latitude and longitude O. S. & Co.'s preparations retain their original condition, yield living profits, and attain the same high standard of clinical excellence. At the International Pharmaceutical Congress, Vienna, 1914, O. S. & Co. were awarded the only Gold Medal for excellence, purity and originality among pharmaceutical exhibits.

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“Roboleine” “Pulverettes”

“Supersedes Cod Liver Oil in Hot Weather.”

A delicious tonic food consisting of “Cream of Malt,” Red Bone Marrow, the juice of Calves’ Rib Bones and Hypophosphites. Remains unaltered in all climes, bears an excellent protected profit, and is taken over extensive periods. A little explanation sells the largest and most economical size—push it.



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1/-, 2/9 and 5/- per jar.

Sold by Chemists only.

“Patent Powder Pills” have surpassed Pills and Tablets in all countries.



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With the relationship of proper dietary thereto.

**Cows' milk and
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Fresh Cows' Milk, when properly modified, is recognised by the highest medical authorities as the best substitute for mother's milk.

**How to render
the one like the
other.**

Peptogenic Milk Powder when added to cows' milk, water, and (when convenient) a little cream, furnishes a suitable fresh milk diet for infants during the entire nursing period. Milk thus modified according to the directions given on the Peptogenic Milk Powder label is but partially peptonised, and very closely approximates to mother's milk, both qualitatively and quantitatively.

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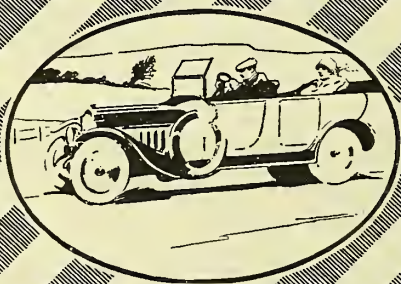
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**Burroughs Wellcome & Co.,
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TRADE MARK



BY SELLING a pot of this refreshing skin balm to your customers for use after bathing, motoring, tennis, etc., you will be doing them a real kindness.



B. W. & Co. create more and more customers every year for this product, especially amongst ladies who are devoted to open-air pastimes. Men who shave, too, appreciate its soothing effect.



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*Supplied in pots at 11/0
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Seasonable showcards post free



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LONDON

'Tabloid' First-Aid

TRADE MARK

BRAND

ENTERPRISING
Chemists are finding
plenty of openings for these
outfits.



If you wish to participate,
obtain a stock and showcards,
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delay.

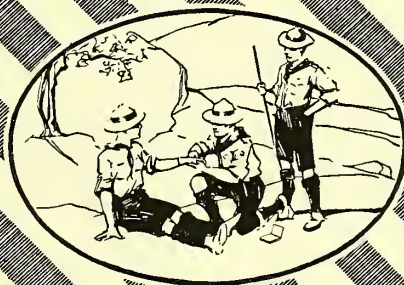


Every motorist, every boy-
scout and most sportsmen are
likely buyers. Mothers, too,
will appreciate 'Tabloid'
First-Aid, because the boys
and girls are home for the
holidays, and in their strenu-
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many slight injuries which
would be all the better for
prompt and proper attention.

*For illustrated list of outfits,
see B. W. & Co.'s Price List.
Showcards post free*

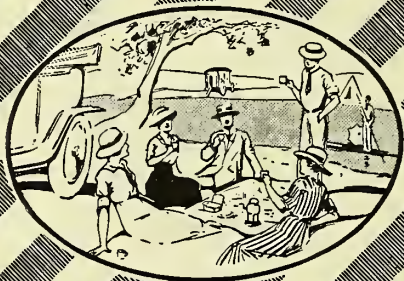


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IT GIVES YOU the monopoly of the demand for tea for picnic, camp and many other out-door requirements.



Keep a tin on the counter ready to show to likely users.



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You will speedily find that the effort is worth while.

Supplied in tins of 100, at 6/0;

200, at 12/0, per dozen.

Hermetically-sealed tins of 100, for export, 8/0 per dozen.

Special Blend, in tins of 100, at 12/0; 200, at 24/0, per dozen.

Showcards post free



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TRADE MARK 'Tabloid' BRAND Photo Chemicals

☞ SALES THIS SEASON
will easily make a record.

☞ By hearty co-operation with
B. W. & Co.'s advertising, in
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you can double and treble
your own sales.

☞ A single carton in the
window is not enough to
attract your due share of this
business, let alone bring you
an increase. Show all you
can. They will make your
window a blaze of golden
yellow.

☞ It will pay you well, too, to
introduce 'Tabloid' Photo
Outfits to every better-class
schoolboy spending his holi-
days in your district. It is
ideal for use in the school
darkroom or in any extem-
pore accommodation.

*See B. W. & Co.'s Price List
for complete list of 'Tabloid'
Photographic products.
Showcards post free*



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"Benger's Food has by its excellence established a reputation of its own."

**INVALIDS
AND THE AGED.**

45

AND THE CHEMIST?

**EVERY
SMOKER
NEEDS -**



a dentifrice that makes for strong, gleaming teeth and a healthy germ free mouth, throat and gums. One that renders the mouth "neutral" and takes away the "bite" immediately after an indulgence in one's favourite weed.

THIS IS IT
AND IT COSTS



4^{1d.}
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We can prove that he needs it, given the opportunity.

It is on the P.A.T.A. at 4^{1d.} (face value 6d.) while the trade price is 27/- per gross.

PROFIT 100 %

If you are interested send a card, when we will forward 3 tins and a showcard that you may place in your window. Test its selling powers FREE.

THOS. CHRISTY & CO.
4, 6, 8, 10, 12 Old Swan
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Telephones : 4278-9.

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Please send me 3 free tins and showcard
as per your offer in C. & D. to-day
(Pin this slip to
your postcard.)

This is one of the Showcards that pull business.

THE CHEMIST & DRUGGIST

Summer Issue, July 25, 1914.

Published at the Head Office: 42 Cannon Street, London, E.C.

Branch Offices: Adelaide, Melbourne, and Sydney, Australia.

Subscription, 10s. per annum, including "The Chemist and Druggist Diary." Price of this issue, 1s. post free.

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SUMMARY

The more notable items only are dealt with.

For Thursday's News see the Coloured Supplement, as what follows includes happenings up to Wednesday evening, besides a series of special illustrated articles and a report of the British Pharmaceutical Conference proceedings at Chester up to Wednesday afternoon.

Veronal has gone on the Irish poisons schedule (p. 120).

The South African Medical and Dental Bill has been read a second time (p. 114).

A Postcard Competition in connection with the B.P. Conference is announced on p. 110.

At Bradford the Pharmaceutical Society has had an unqualified assistant fined for selling lysol (pp. 115-117).

The concluding proceedings of the Society of Chemical Industry at Nottingham last week are reported on pp. 121-122.

The speech by Mr. Masterman regarding the discounting of chemists' accounts is discussed by Xrayser on p. 125, by ourselves on p. 126, and by correspondents on p. 201.

Seven columns of formulæ selected from the new supplement to the Dutch Pharmacopœia afford useful information for pharmacists in all parts of the world (p. 143).

At the meeting of the Council of the Pharmaceutical Society of Ireland last week the President was decorated with a gold Badge, of which a reproduction is given on p. 120.

In connection with the publication of the British Pharmacopœia we give portraits of the General Medical Council's Committee and some notes as to the history of the work, beginning on p. 140.

The principal feature in Insurance Dispensing Reports this week is a list of proprietaries and special products which the London Insurance Committee intend should not be prescribed (p. 139).

Legal reports are again interesting, and include several prosecutions under the Medicine Stamp Acts, and in two of these decision has been reserved for consideration of the application of the principle decided in *Farmer v. Glyn-Jones*.

Pictures and descriptions of a number of pharmacies are one of the features of this issue. They begin on p. 148 and are gathered from several countries. They include notes on Mr. Farr's pharmacy at Uckfield (p. 158), and notes of the past and present of Chester pharmacies and pharmacists (p. 153).

The British Pharmaceutical Conference met in Chester this week. Our report of the proceedings begins on p. 161 and is followed by the President's address, p. 162. Our reports of the papers begin on p. 165 and conclude on p. 180. For the titles see Contents. The proceedings are reported in the section beginning p. 181, and the social functions on p. 193.

AN EDUCATIONAL SPECIAL.

THE pioneer in educational numbers specially for the use of chemists was that issued many years ago by THE CHEMIST AND DRUGGIST. This year exceptional interest attaches to the Educational Number, for it will contain an epitome and review of the new edition of the British Pharmacopœia. The publication date is August 15, 1914. Write to the Publisher about it.

Minor Botany.

Being the twenty-fourth of a series of articles for pharmacy students which commenced on January 3, 1914.

THE mallow order (*Malvaceæ*) is readily distinguished by its peculiar column of stamens, the filaments being united into a tube below, and much branched above, terminating in anthers with only a single cavity ("half-anther") with transverse dehiscence (instead of the usual longitudinal slit). This order also provides good examples of pollen grains with spines. The twisting of



ALTHAEA OFFICINALIS.

the five distinct petals in bud (convolute prefloration) and the epicalyx of bract-like appendages to the five-fid gamosepalous calyx also help to characterise the order. In the marshmallow (*Althaea officinalis*) the calyx has more than five of these bract-like appendages, these being linear and much shorter than the five lobes of the calyx. The marshmallow is not uncommon in moist situations in Southern England. It is a perennial plant with erect, branched flowering stems about three feet high, covered, as well as the foliage and inflorescence, with a dense velvety down. The leaves are broadly ovate, usually three-lobed. The pale rose-coloured flowers appear rather late in the summer (August-September) in the axils of the upper leaves. They are succeeded by capsular fruits (known as carcerules) which split when ripe into fifteen to twenty portions, each corresponding to a single carpel. Such fruits which split into their component carpels to shed their seeds are known as schizocarps. The root is used as a demulcent, being collected on the Continent in autumn from plants about two years old, scraped and dried. In a section of the root large isolated cells are visible under the microscope, and treatment with suitable stains shows them to be filled with mucilage. Tips of roots are usually covered by a protective cap (root-cap), the outer cells of which undergo mucilaginous degeneration and lubricate the root-tip in its passage through the soil.

Nederlandsche Maatschappij der Bevoording der Pharmacie.

THE general meeting of the Dutch Pharmaceutical Society took place in Amsterdam on July 6, 7, and 8. In the great hall of the Zoological Garden the members were welcomed by Professor P. van der Wielen, as President of the "Departement Amsterdam" of the Society and President of the Committee entrusted with the preparations for the meeting. In his speech, Professor van der Wielen said that the year he welcomed the members with much more pleasure than he did seven years ago, when the Society met in Amsterdam, because of the prospect of better laws being passed regulating the selling of poisonous substances, and dealing with the status of qualified pharmacists and unqualified drug-sellers. The President of the Society (Mr. J. J. Hofman) briefly thanked the Professor for the kind reception accorded to the Society, after which the members were entertained at a concert given by the "Departement Amsterdam" in the Zoological Garden. On Tuesday morning the Society met again in the large hall in the Zoological Garden for the business part of the programme. Mr. Hofman opened the meeting with a speech in regard to "The Sale of Poisonous Substances at Present and in Former Times," in which he showed that in Rome and Greece it was nearly impossible for laymen to obtain poisons, while at present every boy in Holland has got some corrosive sublimate in his pocket for photographic or other purposes without anybody taking notice of it. Anybody can buy more or less dangerous poisons, if only he does not buy them from pharmacists. Mr. Hofman also expressed the wish that the new pharmaceutical law will regulate matters such as these. The reports of various Committees and of the Secretary and the Treasurer were next received and adopted by the assembly. From the Secretary's report it appears that in 1913 the number of members had increased by sixty-one. One of the reasons of this increase is that two new Departments of the Maatschappij have been founded during the year at Dordrecht and Gouda.

In connection with the preparation for the new pharmaceutical law and the new sickness insurance law, to Executive and several special Committees had been much engaged during the year.

In the course of the meeting it was decided to offer an honorary membership to Professor Remington, of Philadelphia.

Among a great number of proposals concerning the practice of pharmacy in Holland, a proposal of the Amsterdam Department was accepted that a scientific conference be organised in Holland in 1915 in case the International Congress in Berne is postponed till 1916.

After luncheon it was decided that the Supplement to the Dutch Pharmacopœia (see p. 143), which up to now has been prepared by the Rotterdam Department, will in the future be compiled by all the Dutch pharmacists together in order to produce uniformity.

Dr. H. L. Visser was appointed delegate of the Society to the "Fédération Internationale Pharmaceutique." After the meeting, which lasted till 5 p.m., a boat trip was made on the Amstel, after which the members dined together.

Postcard Competition.

WE propose to give copies of the new edition of "Pharmaceutical Formulas" for the best answers to the following questions regarding the papers communicated to the British Pharmaceutical Conference this week (see p. 165 *et. seq.*):

1. Which is the most useful paper?
2. Which paper contains most information?
3. Which paper will be most profitable?

Competitors should write, on postcards only (with their own name and address), thus:

1. Most useful (subject and name of author).
2. Most informative (subject and name of author).
3. Most profitable (subject and name of author)

The best replies will be those which most nearly agree with the consensus of opinion expressed on the card, which will be received up to Tuesday, August 4. In the event of a tie, the Editor reserves the right to award the prizes in accordance with time of posting or other fair means of adjudication.

ENGLISH AND WELSH NEWS.

Subscribers are invited to send to the Editor newspapers containing news of trade interest. Please mark the items.

Brevities.

A fire occurred on July 14 at the premises of J. & J. Thompson, chemists and druggists, of King Street, Oldham. The damage done is covered by insurance.

Stratford-on-Avon Town Council have decided to make an order for chemists and druggists in the borough to close on Thursdays at 1 p.m., and to take a vote on closing hours for other days of the week.

At Bootle, Liverpool, on July 14, Frank McMahon (17), was charged with stealing 9d. from the shop of Mr. A. D. Rutter, chemist and druggist, Seaforth Road, Bootle, and was discharged under the First Offenders' Act.

In Leeds on the August Bank Holiday (Monday, August 3) shopkeepers will close all day, and keep open on the Wednesday afternoon preceding and close as usual on the Wednesday afternoon following. This has full official sanction.

A severe thunderstorm broke over Rhyl a few days ago. The electric lamps of Mr. P. J. Ashfield, chemist and druggist, High Street, were struck and the fuses on the board inside the shop went wrong. Mr. Ashfield happened to be writing at his desk close by, and sustained a shock, the effects of which made themselves felt for upwards of an hour.

The Wolverhampton Town Council on July 16 issued a draft order for chemists and druggists to close at 8 p.m. on Monday, Tuesday, and Wednesday, 1 p.m. or 8 p.m. on Thursday, 9 p.m. on Friday, and 11 p.m. or 1 p.m. on Saturday, except on the fourteen week-days preceding Christmas Day and the seven days before Easter Monday, Whit Monday, and August Bank Holiday.

In Blackburn thirty-five chemists and druggists have voted under the Shops Act for a closing order to fix the hours of all shops at 9 p.m. on Monday and Tuesday, 9.30 p.m. on Wednesday, 1 p.m. on Thursday, 10 p.m. on Friday, and 11 p.m. on Saturday. Only fifteen chemists voted against the order, but as the majority of shopkeepers were against an order it is not to be applied.

Mr. A. E. Hobbs, Ph.C., President of the Tunbridge Wells Tradesmen's Association, spared no expense in decorating his two pharmacies at Mount Pleasant and St. John's Road, Tunbridge Wells, during the Cricket Week. The bunting, flowers, and electric lights made a splendid show after dark, and the decorations were the talk and admiration of the natives and visitors.

The New British Pharmacopœia.

At the meeting of the Executive Committee of the General Medical Council on July 13, Sir Donald MacAlister presiding, the following resolutions were come to, the President, as Chairman of the Pharmacopœia Committee, having presented the completed draft of the British Pharmacopœia, 1914, and asked the Executive Committee to adopt it on behalf of the Council:

"(a) That the completed draft of the Pharmacopœia now presented by the President on behalf of the Pharmacopœia Committee be received and adopted by the Executive Committee on behalf of the Council as 'The British Pharmacopœia, 1914'; that a statement of account relating to the expenditure on the preparation and issue of the work be communicated to H.M. Treasury, in order that the price at which the work shall be sold to the public may be fixed, with the suggestion that the price of 10s. 6d. net per copy would in the circumstances be suitable; that in advance of publication copies be placed for the inspection of the public at the Registrars' offices in London, Edinburgh, and Dublin, and that a copy for purposes of review be supplied to the editor of each of the medical and pharmaceutical journals on the list in the hands of the General Registrar; and that the General Registrar be authorised to insert the statutory notices of publication in the official 'Gazettes' on October 9, 1914.

"(b) That the Executive Committee place on record its high appreciation of the skilful and assiduous work of Dr. Tirard and Professor Greenish, the Editors of the 'British Pharmacopœia, 1914.'"

Herbalists' Conference.

Alderman J. Marlow, Nottingham, presided at the annual Conference of the National Association of Medical Herbalists of Great Britain, Ltd., at Bradford last week. In his presidential address he urged that medical herbalists must band themselves together and act with a determination to surmount the obstacles that lie in their path. Mr. C. Burden stated that a Bill has been prepared for introduction to Parliament for the better regulating and defining of the practice of the herbalist. This Bill provides that no person should assume and use the title of herbalist unless registered under the Act; that the National Association of Herbalists should make provision for the training of students in the science and practice of herbal medication, hold examinations, and keep a register; and that any person on the register should be entitled to describe himself or herself as a herbalist and to charge and recover fees for attendance given or for herbs and medicine supplied.

Venereal Diseases.

It has been decided to form a National Council for Combating Venereal Diseases. This is the outcome of efforts by a Committee appointed by the Royal Society of Medicine and the Eugenics Education Society in March 1912. On November 10, 1913, this Committee submitted its report to the Royal Society of Medicine. Among its recommendations was one suggesting that popular education is one of the most necessary steps to be taken, and probably the most effective method for combating the ravages of venereal disease. The immediate provision of proper facilities for treatment is also strongly urged. The submission of this report was followed by the appointment of a further special committee, which discussed the procedure to be adopted to carry out the recommendations, and the appointment of the Royal Commission now sitting is one of the developments, while the National Council is another. Sir Thomas Buxton, Bart., M.D., has taken a leading part in the matter.

Contracts

Settlement has been notified of the following contracts:

Admiralty.—British M.M. Brush Co., Ltd., Paisley; Brushes, Ltd. (H. Rose & Sons), St. Albans; D. Burrow & Sons, Leeds; W. Cleghorn & Son, Walsall; E. A. & W. Greenslade, Bristol; H. W. Jones & Sons, London; G. B. Kent & Sons, Ltd., London; S. Ludbrook & Co., Ltd., London; Newton & Cook, London; S. D. Page & Sons, Ltd., Norwich; A. Reid & Sons, London; R. A. Rooney & Sons, London; James Root & Sons, London; W. R. Tilbury & Co., London; Titterton & Howard, London; United Institution for the Blind, Deaf, and Dumb, Leeds; W. H. Vowles & Sons, Ltd., Bristol—for brushes, etc. F. F. Fox & Co., Bristol; J. M. Hamilton & Co., Ltd., Hull; Price's Co., Ltd., London; Smith Brothers & Co., Stratford; Younghusband, Barnes & Co., London—for linseed oil. Younghusband, Barnes & Co., London, for rape-seed oil. J. Light & Son, Ltd., Liverpool, and Price's Co., Ltd., London, for sperm oil. J. Knight, Ltd., London, and Price's Patent Candle Co., Ltd., London, for hard soap.

Crown Agents for the Colonies.—May & Baker, Ltd., London, and Burgoyne, Burbidges & Co., London, for drugs. Baiss Brothers & Stevenson, Ltd., London, for castor oil.

Dover Corporation.—Mr. A. L. Thompson, Dover, chemist's goods.

India Office.—Spencer, Chapman & Messel, Ltd., London, and F. W. Berk & Co., Stratford, for acids (running contracts). Burgoyne, Burbidges & Co., London, for ammon. chlor. Parke, Davis & Co., London, for tablets.

Tring Urban Council's Hospital.—Mr. G. G. Jeffery, Tring, drugs.

Sheffield.

Mr. H. G. Williams, the Hon. Secretary of the local Chemical and Pharmaceutical Society, who after his recent operation had to relinquish business and take a rest at Scarborough, is back at business again, and well on the way to his usual health.

Mr. Frederick Goddard Roebuck, pharmacist, of Abbeydale Road and Millhouses, has adopted a useful method in catering for his North-East Derbyshire customers which joins the suburb of Millhouses. He has fixed at Dore and Totley Station a letter-box, where orders may be left, which is cleared twice a day, the urgent orders being delivered by cycle and the heavier goods by cart.

IRISH NEWS.

Subscribers are invited to send to the Editor newspapers containing news of trade interest. Please mark the items.

Brevities.

The Corporation of Cork is buying 50*l.* worth of fly-papers for poor people.

Mr. James E. O'Neill, J.P., druggist, Maghera, served on the county Derry Grand Jury at the Summer Assizes on Monday.

Mr. Henry C. Meyrick, Ph.C., is opening a business at Scarteen Street, Newmarket, co. Cork, for the Pharmacy and Drug Stores, Ltd.

For breaking into Dr. J. C. McWalter's residence at North Earl Street, Dublin, and stealing silver plate, a man named Maloney has been sentenced to three years' penal servitude.

Among those who have advanced a step in medical qualification are Mr. Cecil W. Robinson, L.P.S.I., Dublin; Mr. Bernard Hirson, L.P.S.I., Rathmines; and Mr. R. A. Austin, L.P.S.I., Bray.

At the annual conference of the Irish Municipal Authorities' Association in Dublin last week, Mr. J. P. Timmon, J.P., L.P.S.I., Navan, read a paper on the subject of "The Desirability of a Compulsory Saturday Half-Holiday in Ireland."

The fatal accident to Mr. D. J. Fenton, reported in our issue of July 18, has caused widespread regret in trade circles in the North of Ireland. Mr. Fenton was over forty-three years in the service of Messrs. Grattan & Co., and was well known to many in the drug-trade and very highly respected by his employers.

At the meeting of the Belfast Board of Guardians last week the Chairman referred in appropriate terms to the sudden death of Mrs. Payne, widow of Mr. J. C. C. Payne, Ph.C., and to the valuable work she had accomplished while a member of the Board. He moved a vote of condolence with the family, and this was passed by the members standing.

Drugs for the Poor.

The Local Government Board has written to the Clones Board of Guardians calling attention to the delay in sending samples of medicines for analysis from Newtownbutler dispensary, and stating that should a similar delay occur in future the certificate of analysis will not be recognised nor recoupment allowed. The Guardians have called the attention of Dr. Fitzgerald, medical officer of Newtownbutler dispensary district, to the matter.

Dr. Betty reported to the Enniskillen Board of Guardians that there were no medicines or drugs in Tempo Dispensary, except a few old drugs that had been there since the late Dr. Clarke's time. The Clerk said that last February Dr. Hackett got a supply, and some of the Guardians expressed the opinion that it was serious to leave the dispensary without medicines. Mr. Edwards said the patients attending an adjoining dispensary had to go to Tempo for medicines, and that practice had been going on since the last doctor came. It was decided that the medicines and drugs be ordered at once.

The Irish Local Government Board has written the Bawnboy Board of Guardians asking to be furnished with the report from Dr. Sheil, medical officer of health, Swanlinbar, as to the unusual expenditure on medicines and medical and surgical appliances up to March 31, the amount being 12*l.* 2*s.* 8*d.* and 2*l.* 12*s.* 8*d.* respectively, the number of patients treated being eighty-four only. Dr. Sheil, replying to the requisition, stated that the half-year referred to was an exceptionally severe one, and there are two depôts in his district. The explanation was considered satisfactory by the Guardians.

Mr. D. A. LEADBETTER, chemist and druggist, Main Street, Lochgelly, has been re-elected a director of the Lochgelly Gas Co.

SCOTTISH NEWS.

Subscribers are invited to send to the Editor newspapers containing news of trade interest. Please mark the items.

Aberdeen.

Mr. Frederick Soddy, M.A., F.R.S., lecturer in physical chemistry in Glasgow University, has been appointed to succeed Professor F. R. Japp, F.R.S., in the chair of chemistry at the University of Aberdeen. Professor Soddy, who takes up the duties of his new post at the beginning of the winter session, has had a brilliant career as an exponent of original research in physical chemistry and his name is associated with those of other distinguished chemists and physicists in connection with the investigation of radio-active phenomena, and especially with the establishment of the "Theory of Atomic Disintegration" now so generally accepted in the explanation of radio-active phenomena. He was born at Eastbourne thirty-seven years ago. His wife is a daughter of Dr. Beilby, F.R.S., the distinguished technical chemist.

Dundee.

The Dundee and East of Scotland Pharmaceutical Association has issued a circular to members inviting contributions to the funds of the Standing Committee on Insurance, and suggests that the amount of the subscription should be 1 per cent. of the amount of the first year's Insurance dispensing. The circular is being followed up by a personal call.

Mr. James Wallace, a well-known Fifeshire bone specialist, died at his residence, Craigwhinnie, Cupar Road, Tayport, on Saturday, July 18. Mr. Wallace was a blacksmith, but his skill in setting bones was phenomenal, and sufferers visited him in Tayport from far and near to have sprains, dislocations, and fractures treated. He was eighty-two years old.

Edinburgh.

The Royal Institute of Public Health Congress was held in Edinburgh from July 15 to July 20, under the presidency of the Marquis of Linlithgow.

A new departure in the way of holidays was made by quite a number of chemists this week which may become an annual affair. This Trades' Holidays' week is usually quiet, and the suggestion was put forward that chemists could easily close all day on Wednesday.

It does not pay to reduce the price of some commodities, apart altogether from the profit-and-loss point of view. A local pharmacist was in the habit of giving 2 drachms of boracic acid for a penny. The other day he decided to give his customers a little more. "Thae boric crystals are nae sae good as usual," lamented one lady; "aboot half o' them'll no' dissolve!"

A correspondent of "The Scotsman," writing from Larbert, complains that he sent his coachman with a prescription to two druggists in the burgh on Wednesday, July 15 (when the shops were closed under the Shops Act) and could not get the prescription dispensed until they opened again. The same applied in another town, all of which the correspondent considers to be "another instance of Radical imperfection and hasty legislation and its effects." This is "unjustified," says a reply.

Medical Service in the Highlands.

An informal meeting was held at Dunoon on July 13 between the members of the Highlands and Islands Medical Service Board and representatives of various public bodies. Proposals were submitted for the erection of small hospitals at central points so as to increase the efficiency of the medical and nursing services in sparsely populated areas, in some of which medical men and nurses have to travel considerable distances in the course of their duties.

THIS is old, we believe, but it comes *via* Italy as having occurred in a chemist's back shop: "Uncle, what difference is there between common salt and sodium chloride?" asked the youthful student in medicine, profoundly immersed in a thick volume of chemistry. "Two shillings," answered the uncle sweetly from behind the screen where he was making up prescriptions.

FRENCH NEWS.

(From the "C. & D." Paris Correspondent.)

THE THERAPEUTICAL SOCIETY OF PARIS proposes to celebrate its Jubilee in 1916 by an International Congress of Therapeutics.

M. GRAUX'S PAINTING of the original Curie laboratory, exhibited at the 1914 Salon, has been purchased by the Paris Municipality.

FRENCH CANADA, writes M. Ivema in the "Soleil," will celebrate the third centenary of the arrival in Quebec of Louis Hébert, a Parisian apothecary, who landed there with his family in 1617. He left the pharmacy-counter to become a colonist and agriculturist, and was one of the first to grow wheat in the Dominion which is now the Granary of the Empire.

A PRIZE of 3,000f. will be awarded by the Nice Chamber of Commerce, together with other Associations, for a process to distinguish between natural olive oil and olive oils which have been chemically treated so as to remove any bad odour. The competition is international, and papers must be sent in to the Chambre de Commerce of Nice up to December 31, 1915.

A POLYGLOT PHARMACIST.—Herr Julius v. Muzsa, a Hungarian pharmacist, took part in the sessions of the International Olympic Commission, held in Paris last month, and, in the presence of the French President, addressed addresses of welcome in German, French, Italian, English, Danish, Swedish, Norwegian, Hungarian, and Japanese, the last particularly delighting the Japanese Ambassador.

FATALITY IN NICE.—The only child (a boy of four years) of Mr. and Mrs. T. Reilly has been killed by falling from a window of the second floor of his parents' residence in Nice. Mr. Reilly is the representative of Messrs. Evans, Lescher & Webb, Ltd., on the Continent and in Egypt. He was not in Nice when the accident happened. It appears that Mrs. Reilly and the boy were in the room when Mrs. Reilly was called away by a ring at the door. The boy appears to have climbed on to a chair by the window, and, overbalancing himself, fell into the courtyard, and was immediately killed, the skull being fractured. Mr. Reilly is the brother of the well-known wholesale druggist in Nice.

MADAME PHISALIX, who has already made her name by her study of snake-poisons, has communicated to the Academy of Sciences a note of her recent researches, which show that the mucous and cutaneous secretions of reptiles mixed with viper venom may be used to vaccinate animals against experimental hydrophobia. Rabbits inoculated with salamander mucus by intravenous injection. A few days afterwards they supported an injection of ten milligrams of viper poison—twice as much as would suffice to kill an ordinary rabbit. Further experiments were cited as proving (1) that the immunisation is temporary, only, though its effect may last from a night to two months; (2) that to assure results the two venoms must be mixed: salamander or viper venom alone does not suffice.

PRIZES FOR RESEARCH IN SCIENCE.—The Committee appointed by the Academy of Sciences to apportion the Comte Fund for Scientific Research has published its report for 1914. M. Pierre Bréteau is granted 80f. for the continuation of his researches on the use of palladium in analysis and organic chemistry. Professor Pourroux, of Bordeaux, receives a similar sum (researches regarding silicium and its varieties); and M. Mauguin, of the Faculty of Sciences, 140f. to continue his investigation of liquid crystals and their orientation in a magnetic field. M. Hemsalech (?), of Manchester University, receives 240f. Having successfully pursued for over twenty years very interesting spectroscopic research, this year he is given to allow him to procure a resonance transducer and a battery of condensators for the extension of his scientific plant.

R. JEAN MORDAGNE, whose recent death is reported, was Mayor of Castelnaudary (Aude), his native town, in 1857, his father was a local pharmacist, and he

decided to follow the parental profession. He took over the Castelnaudary business about 1885. He was member of the Supervising Council of the Pharmacie Centrale de France, President of the Society of Pharmacy of South-West France, corresponding member of the Paris Society of Pharmacy, member of the Society of the History of Pharmacy, official expert-chemist (Government analyst), and Inspector of Pharmacies for the Aude Department. He took his M.D. degree at Toulouse in 1895. He sat on the General Council of the Aude (a body which may be compared to English county councils), and would have presented himself for Parliamentary honours at the last elections, had not his failing health prevented him from attaining his crowning ambition.

INDIA AND THE EAST.

(From the "C. & D." Correspondents.)

SANDALWOOD.—The report on forest administration in the province of Bihar and Orissa for the year 1912-13 states that the sowing of sandalwood seed by the divisional forest officer, Sambulpur, was undertaken during the period under review, and very good germination was reported.

PURE FOOD AND DRUGS.—The Burma Chamber of Commerce is endeavouring, through the Local Government, to get the Government of India to move in the direction of passing a Pure Food Act for the whole of India. It is stated that the Government of India are prepared to let some of the Provincial Governments protect themselves by special legislation, but the difficulties that surround such action are many.

FIGHTING PLAGUE IN JAVA.—For eighteen months the population of Java has been suffering from plague, there being from 11,000 to 12,000 victims in 1913, and in April of this year alone 1,500 died. An extensive campaign is now being carried on, and many doctors have been sent from Holland equipped with camp-hospitals and the necessary appliances. Java has a population of about 30,000,000, and at present there is one doctor to 120,000 inhabitants.

THE DEATH of Mr. Butto Kristo Paul (C. & D., July 11, p. 44), which took place at Benares, is referred to in the Indian Press in eulogistic terms. The inception of the business was a tiny little shop located in a small one-storeyed building in the busiest part of Barabazar, Calcutta, when there were no direct dealings with European druggists on account of mistrust and prejudice. Paul was one of the first to succeed in popularising Western medicines as the result of indenting from Europe in large quantities and selling at popular prices.

CEYLON FOOD AND DRUGS ORDINANCE.—Ceylon is to have a new Food and Drugs Ordinance, the draft of which has been published in the "Ceylon Gazette." Its scope, says the "Ceylon Observer," will include not only articles of food used by man, but also the food for animals and articles of domestic use. A special section makes it illegal to sell condensed skim milk without clear notification of its character and unsuitability for infants. All offences are to be summarily triable, and the ordinary penalties may be enhanced in the case of repeated or aggravated offences. The Ordinance is a re-draft of the Bill published in 1912.

INDIAN MORPHINE.—It appears from the annual report on the operations of the Opium Department for the year ended October 31, 1913, that there was a decrease in the output of morphine hydrochloride from the Ghazipur opium-factory, due to the smaller quantity of crude material available. The factory superintendent writes: "The sale prices of our alkaloids and salts in London continue to be below the market prices, and it is not clearly understood why this should be the case. Arrangements have now been made to send identical samples of our products to Professor Dunstan, of the Imperial Institute, for examination, in order to ascertain by independent inquiry whether the price received is adequate in comparison with the quality of our output. Up to date we have not received any results from Professor Dunstan."

STRAITS GOVERNMENT OPIUM MONOPOLY.—The Report of the Government Monopolies Department, published in the Straits "Government Gazette," states that during 1913 opium was purchased partly through Guthrie & Co., Ltd., partly by public trades, and partly by purchase from Calcutta direct. The number of chests delivered to the Department was 4,368, made up of 1,848 chests of Indian and 2,520 chests Persian opium. The average price paid by the Department for Indian opium was \$1,231 per chest, and for Persian the price was \$1,159 per chest. A profit of \$3,356,548 was made on the sale of opium and one of \$66,538 on opium-licences. Mentioning a large seizure of cocaine and morphine, the Superintendent remarks:

"Nothing will ever stop the evils arising from the use of cocaine and morphine, until the countries of origin realise the grave responsibility resting upon them, and take effective steps to restrict the manufacture to legitimate medical needs. No justification can be found for the wholesale flooding of Eastern places by European manufacturers, who appear utterly indifferent to the resulting evils of these drugs."

SOUTH AFRICAN NEWS.

(From "C. & D." Correspondents.)

"The Chemist and Druggist" is subscribed for and supplied weekly to all the members of the seven Chemists' Societies in British South Africa.

Cape Province.

PERSONAL.—Mr. J. W. Cooper, of Kalk Bay, has been appointed a Justice of the Peace for his district.

MEDICAL AND DENTAL BILL.—The Medical Practitioners' and Dentists' Registration Law Amendment Bill, which came from the Senate, was read a first time in the Cape Assembly on June 24, the second reading being down for June 29.

TRAVELLERS' MOVEMENTS.—Representatives from overseas staying in Cape Town when the mail left included Mr. C. Gerrish (Southall Bros. & Barclay, Ltd.), Mr. George Taylor (W. J. Bush & Co., Ltd.), Mr. A. Wolfe (Dr. Williams Medicine Co.), and Mr. Walter Marshall (Luce's Eau de Cologne Co.).

P.A.T.A.—The annual meeting is to be held at Cape Town on August 6, when a lengthy agenda will be discussed, including a resolution to raise the subscription to five guineas for manufacturers, five guineas for wholesale dealers for each branch joining, and one guinea for retail vendors for each shop joining. Considering the advantages which retailers obtain, it is not likely they will object to the modest guinea.

Natal.

MEDICAL AND DENTAL BILL.—The "Natal Mercury," in its issue of June 26, deals at length with the exclusion of chemists under this Bill, and relates the sequential facts leading up to the present unsatisfactory position. As regards the opposition of the Cape chemists, the "Mercury" states: "It is strongly to be hoped that they will not allow mere insular prejudice to prevent them joining with three other Provinces for the removal of what seems an injustice. The point involved is one of great importance to chemists, for the differentiation in favour of overseas chemists would be ludicrous were it not of such moment, while the retention of the provincial limits in such a matter as the one concerned is a piece of petty parochialism, such as Africa should have outlived by this time."

Orange Free State.

PERSONAL.—Dr. A. B. Ward, President of the Orange Free State Medical and Pharmacy Council, has been installed W.M. of the "Rising Star" Lodge of Freemasons. At the installation the Temple in Adderley Street was filled to overflowing, a fact which bore eloquent testimony to the popularity of the new W.M.

Pharmaceutical Society of Cape Province.

The third general meeting was held at 65 Hout Street, Cape Town, on June 18. The proposition on the agenda—"That the Pharmaceutical Society take steps to prevent chemists being exempted from the provisions of the Shop Hours Act"—which stood in the President's name, accounted

for a large attendance, including Mr. Geo. R. Cleghorn (President), Mr. J. Sowden and Mr. J. Dell (Vice-Presidents), Messrs. Aitken, Blair, Copeland, Corrigan, Darroll, Edwards, Austin Crow, Cheetham, Merry, Weller, Mackay, Ferguson, Fick, Gribben, Greenland, Hughes, Jardine, Hill, Mathew, Petrie, Rivett, Sleggs, Spruce, Thomas, Vincent, and J. Sloane (Hon. Secretary). Mr. Cleghorn, in introducing his motion, proposed that Rule 5, and any other rule preventing visitors from voting, be suspended during the discussion. Continuing, Mr. Cleghorn emphasised that the time had arrived for chemists as a body to uphold their rights. The large attendance, he said, was proof that the profession recognised this, and he hoped that his motion would merit their support. He called attention to the long working-hours—unduly long; they compared badly with those worked in the Transvaal, Orange Free State, and Natal. According to the Act about to be placed before the Provincial Council, cafés, fruit-shops, and chemists were excluded from the provisions. Apart from the injustice, it was not a very dignified position in which to be placed, and prompt action was called for. The position should be placed before the Administrator, and the objections that chemists resented be removed before the Act became law. After a protracted discussion, Mr. Darroll proposed that the words "Provided that some such clause of exceptions be included as in the Transvaal" be added to the motion. Mr. Crow enlarged upon several important points missed by previous speakers, and proposed as an amendment: "That the Society take steps to have pharmacists included in the Shop Hours Act, and appoint a committee to go into matters of detail." Mr. Copeland seconded, and, on being put to the meeting, Mr. Crow's amendment was carried, only one voting against. The following members were elected to form the Committee: Messrs. Cleghorn, Darroll, Sowden, Copeland, Fick, Petrie, and Aitken.

COLONIAL AND FOREIGN NEWS.

FÉDÉRATION INTERNATIONALE PHARMACEUTIQUE.—A meeting of the Fédération is to be held at the Hôtel National, Berne, on August 7 and 8. Professor L. van Itallie, President, will open the proceedings at 11 A.M. on August 7, and the Secretary's and Treasurer's reports will be received. Among the subjects down for discussion are (1) the Report of the International Committee on Pharmacopœias, (2) a suggestion to appoint a Committee to report on the question of the unification of the nomenclature of Pharmacopœias, (3) a proposal to publish a uniform table of the specific gravities of mixtures of alcohol and water, (4) a report on pharmaceutical education, (5) the need of a permanent Commission to take charge of the organisation of the International Congress of Pharmacy, (6) organisation of a Press Bureau, and (7) a Conference having for its object the standardisation of formulæ produced for the purpose of replacing pharmaceutical specialities.

PHARMACEUTICAL VISITORS IN GERMANY.—Our correspondent, who is travelling with the party of American pharmacists and their lady friends on their Continental visit, reports that when they arrived at Dresden on Sunday they were received by Dr. Schneider, proprietor of the "Pharmaceutische Centralhalle," that interesting periodical which was founded by the late Dr. Hermann Hager in the same year as THE CHEMIST AND DRUGGIST. Dr. Schneider acted on behalf of a local committee, which had been formed to see about the entertaining of the visitors. After the reception the party had a splendid excursion on the river Elbe, and altogether their time in Dresden was as enjoyable as it was instructive. The journey was continued, and Vienna was reached on Tuesday. In the Austrian capital a Reception Committee had also been formed, Dr. Hans Hager being the Chairman of the Committee. Dr. Hager is the proprietor of the "Pharmazeutische Post" and the Austrian "Chemiker Zeitung," and he and Frau Hager welcomed the party. On Wednesday the Burgomaster of Vienna held a reception, after which the party visited the University and the new Francis Joseph Jubilee Hospital, which is said to be the finest in Europe. Dr. Alpers, on behalf of the party expressed to the Burgomaster and others their appreciation of the hospitality extended to them. The party is spending two days in Vienna, and expects to reach Nuremberg on Friday.

LEGAL REPORTS.

TRADE LAW.

A Dental Case.—At Longton County Court on July 14, Mrs. Rosehannah Beardmore, Longton, was awarded 5*l.* 4*s.* damages and costs by Judge Ruegg, K.C., for cocaine-poisoning caused by the unskilful administration of cocaine by Thomas William Grantham, an unregistered dentist, practising as Crupper & Co., Snow Hill, Shelton, Stoke-on-Trent. Mr. P. J. McKnight, for the defendant, said that 25 minims of codrenine was used, and contended that the trouble was due to the septic condition of the woman's mouth owing to ulceration. Dr. W. C. D. Prendergast, Hanley, agreed, and said 25 minims of codrenine was a proper dose.

Ipecacuanha for Sickness.—In the Shoreditch County Court on July 17, there was an amusing discussion as to the uses of ipecacuanha, during the hearing of a claim under the Workmen's Compensation Act by a man who had had his ribs smashed. He said that while in the hospital he was affected with sickness very badly, and that had continued since leaving to such an extent that he could not keep food down, and he was slowly getting weaker and weaker. The respondents, however, contended that the sickness had nothing to do with the accident, whereupon Judge Cluer said it would be interesting to see what medicine he was given in hospital. Looking at the card, his Honour said that, as usual, no one could read a doctor's "fly-crawls." (Laughter.) The card was handed to two doctors in court, who at first decided that there was no reference to medicines, only plasters, but afterwards that it said "ipecac." (Renewed laughter.) Judge Cluer: Then that bears out the man's statement that he was sick in hospital, as they give ipecac. for sickness. Dr. Brown: Not with that mixture—digitalis. Judge Cluer: But ipecac. is given for sickness. Dr. Brown: I should not give it. Judge Cluer: But in the olden days, if sickness continued, was it not one of the old-fashioned remedies to give ipecac. to stop it? Dr. Brown: I should think not before lots of other medicines which would be bound to be more efficacious; but, all the same, I cannot say what the olden-time doctors did. Judge Cluer: You present-day doctors may abuse them, but you copy them in many things all the same even now. Dr. Brown: I can only say I should give a lot of other things first. Judge Cluer eventually decided in favour of the applicant.

Zotos and Perlax.—In the City of London Court on July 16, before Judge Rentoul, K.C., and a jury, Albert F. Perl, 3 Sharon Road, Chiswick, sued J. C. Gambles & Co., 20 Little Britain, Aldersgate Street, for 17*l.* 16*s.* 9*d.* for Zotos capsules supplied. Mr. Louis Green appeared for the plaintiff and Mr. Lipson Ward for the defendants. Mr. Green stated that in 1911 the plaintiff was the secretary and managing director of Zotos, Ltd., and on April 29, 1911, an agreement was entered into between Zotos, Ltd., and plaintiff whereby they granted him a licence to manufacture Zotos, and, of course, to sell it. Plaintiff carried on the business as his own property. The fact was well known to the defendant, Mr. Gamble. Next year a draft of an agreement between the plaintiff and defendant was sent to defendant. In the meantime Zotos to the value of 5*l.* was supplied by the plaintiff to the defendant. Zotos, Ltd., had put a laxative on the market called Perlax. In November 1910 a company called Hutchinson & Perl, Ltd., which plaintiff was a co-director with one Hutchinson, was formed to take over Perlax. Defendant ordered 25*l.* worth of Perlax, which was supplied. Defendant now wanted the plaintiff to allow him for the Perlax which he had on hand, and so discharge his liability for the Zotos. As the plaintiff would not do that, as he had supplied the Zotos and the Perlax was supplied by Hutchinson & Perl, Ltd. Mr. Perl was called, and supported his counsel's statements. Mr. Ward remarked that defendant's case was that the Perlax was bought from Zotos, Ltd., and they had sued instead of Perl defendant could have raised a set-off against them. The present action was merely a trap on the plaintiff's part. Defendant was called, and he did not know of the arrangement between Hutchinson & Perl and Zotos, Ltd. Plaintiff told him that Zotos, Ltd., was bringing over Perlax, and he asked witness to see a stock. He gave his order for Perlax to Zotos, Ltd., the invoices showed. He had a right to return the Perlax to the people from whom he bought it. Plaintiff suggested that he (defendant) should take over Zotos, paying plaintiff 17*l.* a year, anything that he made over and above that to be his profit. Then plaintiff would not let him see the books, and he (defendant) drew his own deductions. He

never opened the draft agreement. Formerly he had 50*l.* a year as the distributing agent for Zotos, Ltd., but that was terminated. The jury stopped the case, and found for the defendant, judgment being given accordingly, with costs.

High Court Cases.

Unless when otherwise stated these cases have been heard in the High Court of Justice, London.

Plowden's Drug-Stores, Ltd.

In the Companies (Winding Up) Court, in the Chancery Division, before Mr. Justice Astbury on July 21, Mrs. Beatrice Mason, widow of the late Mr. Mason, manager and principal shareholder in Plowden's Drug-stores, Ltd., claimed to be entitled to prove in the voluntary liquidation of the company in respect of a sum of 120*l.* which she alleged that she had lent to the company for the purpose of buying stock. The defence was that the transaction was a private loan to the late Mr. Mason.

Mr. Woodhead appeared for the claimant, and Mr. Israel for the liquidator of the company.

Mrs. Mason gave evidence, and certain affidavits were read, after which his Lordship intimated that he was not satisfied as to the debt. He was prepared, however, under all the circumstances either to adjourn the case for Mrs. Mason's father-in-law to be called, or to dismiss the summons without costs.

Mr. Israel stated that probably only 1*s.* in the £ would be paid, even if Mrs. Mason succeeded.

Ultimately it was agreed that the summons should stand dismissed unless within a week the plaintiff gave notice of her intention to call her father-in-law to corroborate her own evidence.

Stevens' Consumption-Cure.

The hearing of the action by Mr. Charles Stevens against the British Medical Association for damages in respect to libel alleged to have been committed in "Secret Remedies" (see *C. & D.*, July 18, p. 40), was continued on Friday, July 17, by Mr. Justice Shearman and a special jury. Dr. Arthur Latham, Portland Place, W., was the last witness for defendants. He said that the plaintiff's medicine was harmless, and he could not imagine how it could destroy tubercle through being taken into the stomach.

The plaintiff then began to call his witnesses, who included several persons who had been cured by the remedy, and doctors who had prescribed it and testified to its efficacy or attested the cure of patients by it. Mr. Ernest J. Parry, B.Sc., F.I.C., stated that he had analysed the plaintiff's medicine and found that the unidentifiable parts agreed in all respects with the substances known as "umckaloabo" and "chijitse," and that the medicine did not contain krameria or kino. Dr. A. H. Bennett, described as a Commissioner under the Government of Liberia, said that the word "umckaloabo" means "life everlasting." He had been in practice for twenty-two years, and after being in Adelaide, South Australia, went to Liberia, where he found they make a decoction of the leaf and mix it with salt and take it as a medicine. It contains, he added, a vegetable parasite which is an antitoxin for chest complaints such as consumption and bronchitis. He had brought the plant over to bring it before the Medical Council so as to get it included in the British Pharmacopoeia. He had not known Mr. Stevens until the day before (Thursday, July 16). As soon as he heard of the term "umckaloabo" he telephoned to Mr. Stevens's solicitors. The witness produced specimens of the plant which he had brought home with him, adding that he wanted to show it to Mr. E. M. Holmes, whose name had been mentioned to him by a chemist. This plant was labelled and handed to Messrs. Hempsons, the defendants' solicitors, on their undertaking to return it to the Court.*

* At the previous trial (*C. & D.*, October 26, 1912, p. 58) Mr. Holmes, as the first witness for Mr. Stevens, stated that he had never seen the root umckaloaba before, and did not know the botanical name of it, but it belonged to the *Polygonaceae*. He gave the Judge the botanical name of the substance called chijitse.

On Monday, July 20, the plaintiff called a number of witnesses who had taken his medicine and said that they had received benefit from it. They came from Manchester, Sheffield, King's Lynn, Petersfield, Hove, Ipswich, Richmond, and other places. Several said they had been certified as free from tuberculosis, and all declared that they had been greatly benefited. Captain Bailey, of Fulham, was cross-examined on a statement made at the last hearing that he knew umckaloabo as a root which grew in South Africa. He told Mr. Colam, K.C., that the root resembled a small Spanish onion with a root below like a parsnip. Colonel C. E. Cassal, F.I.C., F.C.S., stated that at the plaintiff's request he analysed his medicine and compared it with krameria. He found that its formula differed from that published in "Secret Remedies." He visited the plaintiff's laboratory at Wimbledon, and a sample of the mixture was prepared in his presence. He analysed it and found that it contained:

Total solid matter	...	...	...	3.346	parts
Absolute alcohol (by the measure)	...	...	...	21.19	"
Glycerin	...	...	...	11.5	"
Tannin	...	...	...	0.81	"
Ash	...	...	...	0.22	"
in 100 parts.					

On comparing this with samples he received from the plaintiff by post he found that they materially agreed. He had also made an analysis of umckaloabo-root, and found that it was quite different from krameria both with regard to its microscopical character and mineral constituents. His opinion was that the plaintiff's medicine contained neither krameria nor kino. Evidence as to the efficacy of the medicine was given by Edgar Thomas Neal, of Kettering, who had suffered from consumption since he was five years old. He was, he believed, the first Englishman to undergo Professor Koch's treatment for tuberculosis. Last September he first took the plaintiff's medicine, and now for the first time for thirty years his face was free from lupus.

On Tuesday, Mr. Buchanan Hamilton, physician and surgeon, and retired deputy inspector-general of the Navy, said he had taken umckaloabo-extract himself for asthma and bronchitis with good results, and he should prescribe it in all suitable cases. The rest of the day was taken up with the evidence of the plaintiff, which was substantially the same as given by him in 1912. Owing to Mr. Colam, K.C., being unable to conduct the cross-examination through illness, the hearing was adjourned.

The plaintiff was cross-examined on Wednesday, after which Professor H. G. Greenish was called for the defence. He said he had examined the root known as "life everlasting," produced by the witness from Liberia, and umckaloabo. He found they were entirely different. In his opinion the "life everlasting" had not been cut more than a day or two before it was produced.

The hearing was adjourned.

Pharmacy Acts.

SALE OF LYSOL.

At the Bradford County Court, before Judge Graham, on July 21, Novello Denham, assistant to Mr. Whitworth Rimmington, registered chemist, 36 Westgate, Shipley, and 31 Otley Road, Shipley, was sued by the Pharmaceutical Society for penalties, under Section 15 of the 1868 Act, for selling poison. Mr. A. Beldon appeared for the Society, and Mr. Wilfrid Dunn for the defendant.

Mr. Beldon, in opening the case, explained that the poison sold was lysol, which was regarded by the prosecutors as "carbolic acid and liquid preparation of carbolic acid" in Part 2 of the Schedule. He added that Mr. Rimmington had two shops to attend to, and one of them was some time or other out of the charge of a properly registered person. The purchase of lysol was made at 31 Otley Road at 1.25 p.m. on April 6, at a time when the registered chemist, who was the principal, was not there. Lysol, he said, contained 42 per cent. of carbolic acid. The purchase was proved by Mr. Arthur Foulds.

Mr. Thomas Tickle, F.I.C., F.C.S., said that he analysed the purchase, and found it contained homologues of carbolic acid amounting to 1.68 oz. in 4 oz. Cross-

examined, witness said there is a difference between carbolic and cresylic acids, but the homologues of carbolic acid are classified all together for the purpose of the Pharmacy Act. Homologue, he explained, is a term defining the chemical relationship of these articles where there is a series differing in minute detail of chemical structure. Being referred to a statement of the makers of lysol that the "toxin" effect is much less powerful than in the case of other antiseptics, Mr. Tickle said he did not know what meaning was intended to be conveyed in the use of the word in that sense, which was a use of it in quite a new connection. In the ordinary sense toxin means a product of disease poisonous to the animal. He was not aware that the makers had recently adopted an extra label outside the bottle, but he knew that the bottle was distinguishable by touch.

Mr. Dunn: I suggest to you it is common knowledge in the medical and pharmaceutical professions that lysol has not been considered poison until recently.

His Honour: What does that matter if it was a scheduled poison at the time of the sale?

Mr. Dunn: It goes to the question of the degree of guilt. It might affect the question of penalty. You have a discretion in that matter.

Mr. Harry Moon, Deputy-Registrar of the Pharmaceutical Society, proved that the defendant was not a registered chemist.

Mr. Dunn submitted that the whole proceedings were a trap on the part of the plaintiffs, therefore judgment should be given for the defendant, and that the case was exceedingly trivial and petty. He urged that the defendant was hopelessly prejudiced in his defence by the manner in which the Pharmaceutical Society conducted its proceedings. He also pleaded for mitigation of the penalty, and animadverted on the utterly reckless way in which the Pharmaceutical Society conducts its business, adding that it must submit to stand the cost of doing so.

His Honour said obviously the business-like way to prevent heavy costs being incurred would have been to have admitted the offence before the summons was issued.

The defendant then gave evidence, and said that he had been fourteen years in the employment of a chemist. There was nothing on the wrapper of lysol to indicate that it was poisonous, and he did not know that it was poisonous. In cross-examination he admitted that this was not the first occasion on which he had paid a penalty.

His Honour, without comment on the case, gave judgment for the Society for 5*l*.

Mr. Dunn said that the defendant was a man earning 25*s*. a week, and had a wife and child to keep and had to pay for a pass between Shipley and Bradford, which cost him over 3*l*. per year. He asked, therefore, that payment of 2*s*. per month should be allowed.

His Honour said that the defendant had shown himself to be careless, and he would make an order for payment at the rate of 8*s*. per month.

Mr. Dunn mentioned that the Society had brought an action against Mr. Rimmington under another section of the Act for keeping open a shop for the sale of poisons, and had discontinued that action; therefore he asked for costs against the Society in respect of that matter on the higher scale, inasmuch as Mr. Rimmington had been put to great expense in providing for his defence.

His Honour said it was all a case of taxation, and he did not intervene.

Medicine-stamp Act, 1812.

FARMER v. GLYN-JONES CITED.

At Marylebone Police Court on July 16, Samuel Simpson, 34 Cavendish Road, Brondesbury, trading as James Alfred Sims, rubber-goods dealer, etc., at 18a Praed Street, Paddington, was summoned by the Customs and Excise Department for exposing for sale "Dr. Allume's Pills," "Dr. Andrew's Damiana Wafers," and "Dr. Patterson's Pills," unstamped, and without having a licence. Mr. C. V. Hill, solicitor, defended.

Mr. P. Mellor, the solicitor prosecuting on behalf of the Commissioners of Customs and Excise, explained that the proceedings were taken under Section 2 of the 1812 Act. The defendant, he said, was not a qualified chemist, and had no licence. His business was almost

entirely devoted to the sale of medicines (chiefly for the cure of sexual complaints), books, and photographs, which, he thought, he might term suggestive.

Mr. Hill admitted that the medicines referred to in the summonses were liable to duty, but said the question was whether the defendant or someone else was liable for the duty.

Mr. Mellor pointed out that, when the Excise officers went to the defendant's premises, they searched for but could find absolutely no trace of any medicine-stamps. They found, however, a substantial stock of pills in tin boxes, and a large number of skeleton boxes, apparently made up for retail purposes. A few days later the defendant attended, by request, at the Custom House, and made a statement. He said he bought the business from his predecessor on March 25 last, and was quite unaware that a licence was necessary, but had taken one out since his attention had been called to the matter. His business was entirely devoted to rubber goods, books, and medicines. Asked why he did not stamp his medicines, he said he did, and had always done so. The officer then asked how he accounted for the Excise purchases being unstamped, and the defendant replied that they were sold stamped, but the stamps must have fallen off. "That is absurd," said the officer, and pointed out that, in point of fact, there was no sign on the boxes of a stamp having been affixed. The officer also told the defendant that his assistant had previously admitted to him that he had never seen a revenue-stamp in the shop, and did not know what a revenue-stamp was. The defendant replied that the assistant did not know, and, on the officer pointing out that all three purchases had been made direct from the assistant, the defendant remarked, "Well, that is my defence. I must say something." Mr. Mellor remarked that this was one of a series of cases that had recently been before the Courts, and said that it was extraordinary that men who carried on this class of business did not see the necessity of conforming with the ordinary rules in regard to the sale of medicines. This sort of thing resulted in a very serious loss to the Revenue.

Mr. C. V. Hill contended, in defence, that the prosecution must show that the defendant was the owner, proprietor, and original vendor of the articles before they could make him liable for stamp-duty. In support of his contention, he quoted the case of *Farmer v. Glyn-Jones*. "We buy wholesale," said Mr. Hill, "as the chemist did in that case. We are not the original and first vendors of any of these commodities, and have no prescriptive right in them at all. They are sold at every shop of this character in London."

Mr. Mellor contended that, as the defendant packed the medicines, he was, therefore, the vendor.

In the result the Magistrate adjourned the summonses to consider his decision.

Six summonses against Isaac Ross, of 285 Edgware Road, in regard to "Dr. Ricard's Injection," "Dr. Patterson's Pills," "Antiseptic Tablets," "Victones," "Lung Tonic," and "Santolettes," were also adjourned, the Magistrate being informed by the solicitor defending (Mr. Clay) that the points to be raised were the same as in the previous case.

AN UNSTAMPED FOOT-OINTMENT.

At Romford on July 16, Charles Maxwell, Great Dover Street, Southwark, was summoned, at the instance of the Commissioners of Customs and Excise, for exposing for sale unstamped and without a licence a box of Maxwell's foot-ointment. Mr. T. G. Gibson explained that an Excise officer had purchased from the defendant on May 20 a 2d. box of ointment unstamped, which was wrapped up in two pamphlets which set out its many virtues. Defendant had no licence, and there was no Inland Revenue stamp on the ointment. This the officer proved in evidence. The defendant had told him that he made 7 or 8 lb. of the ointment every week, and sold enough in small boxes to produce 15s. to 25s. each week. Defendant pleaded guilty, and said he knew nothing about the things he sold. He was not a chemist, but a

bricklayer by trade. A man wrote out the bill for him, and he had a few thousand printed, but he knew nothing about what it said, and in reply to the Chairman of the Bench said he knew nothing at all of the constituents of the ointment. Defendant was fined 3l., and 5s. costs, in the first case, and 2l., and 5s. costs, in the second case, or fourteen days' imprisonment in respect to each case.

UNSTAMPED MEDICINES.

At Clerkenwell Police Court on July 17, Albert Harris, Church Road, Leyton, and Robert Silverthorne, 119 Euston Road, N.W., were summoned, at the instance of the Revenue Authorities, for uttering, receiving, and exposing for sale, on April 29, certain medicines liable to duty without having obtained and having in force a licence. They were further summoned for selling "Dr. Ricard's Injection," "Dr. Coleman's Pills," "Dr. Patterson's Pills," "Conoids," "Damaroids," and "Balloon Antiseptic Tablets" unstamped.

Mr. Mellor appeared to prosecute for the Commissioners of Customs and Excise, but only the defendant Harris appeared. The latter explained that Silverthorne was his manager, and that he (Harris) took the sole responsibility in the matter. He pleaded guilty.

Mr. Mellor described the kind of business carried on, and said that Harris carried on other similar businesses in the name of "Constantine." Officers called at the Euston Road premises and made purchases and interviewed the manager, who said he knew nothing about revenue-stamps. Harris had had serious warning with respect to another business of the sort, and knew his responsibilities.

The defendant said he had instructed his manager to stamp certain articles, but he was only a man at 25s. a week, and defendant did not wish him to take his responsibilities.

Mr. d'Eyncourt imposed fines and costs amounting to 76l. 15s. 3d.

Revenue Acts.

A WELSH COMPANY FINED.

At Cardiff, on July 15, Gwilym Evans, Ltd., were summoned for selling methylated spirit and dutiable medicines without licences. Mr. T. G. Gibson, of the Commissioners of Customs and Excise, explained that a communication had been received from defendants stating that the omission arose through an oversight on the part of one of their employés, and repudiating any suggestion of intention to defraud the Revenue. Mr. Fred Evans, for defendants, pleaded guilty, and a fine of 40s. and costs in respect of each summons (two) was imposed.

LIMITED COMPANIES.

New Companies Registered.

P.C. means Private Company and R.O. Registered Office.

PERFUMERY OJA Co. (LONDON), LTD. (P.C.).—Capital 300l.—The first directors are F. Hoffmann and G. J. Rahmstorf. Secretary, G. J. Rahmstorf. R.O., 43 City Road, London, E.C.

LIEBLICK NANSSEN & Co., LTD. (P.C.).—Capital 5,000l. Objects: To carry on the business of manufacturers, importers, and exporters of and dealers in any goods, including drugs. R.O., 10 Copthall Avenue, London, E.C.

VAPORISATEUR HYGIENIQUE RADIIUM, LTD. (P.C.).—Capital 8,000l. The first directors are G. Abraham, E. Francois, S. Blok, and G. S. Herne. The vendors, the Radium Cleanser Co., Ltd., have the right of appointing an additional director.

PRIMOLINE WHITE, LTD. (P.C.).—Capital 2,000l. Objects: To take over the business of a colour, paint, varnish, and distemper manufacturer carried on by W. L. Green at 86 High Street, Brentford, as the Primoline White Co. The first directors are W. L. Green (managing director) and Dr. C. Peacock.

Company News.

GWILYM EVANS, LTD.—A notice of the appointment of C. E. Dovey, 31 Queen Street, Cardiff, as receiver and manager, on July 6, 1914, has been filed at Somerset House.

BANKRUPTCY REPORT.

Washington Palmer, 44A Rusholme Road, Chorlton-on-Medlock, Manchester, late 2 Slade Lane, Longsight, Manchester, Chemist and Druggist.—The public examination of this debtor was held on July 17 at the Court House, Manchester. (The first meeting of creditors was reported in the *C. & D.*, July 4, p. 44.) Questioned by the Official Receiver (Mr. J. Grant Gibson), debtor said he had not been able to meet his trade accounts since the National Insurance Act had been in force, and his trade in proprietary articles had declined. Debtor admitted that the counter-trade had also been seriously affected. He further stated that he only got 50 per cent. of the account rendered to the Insurance authority each month. Asked if chemists did not get it all eventually, debtor replied that he did not know. The case was concluded.

DEED OF ARRANGEMENT.

Featherstone, Robert Horne, Market Square and 30 Wesley Place, Tunstall, Chemist and Druggist.—Trustee, J. Bate, Congleton Edge, Congleton, auctioneer. Dated, July 10; filed, July 17. Secured creditors, 1,118*l.*; liabilities unsecured, 1,560*l.*; estimated net assets, 415*l.* Composition of 6*s.* 8*d.* in the pound, payable forthwith, to the unsecured creditors, and to the partly secured creditors after they have deducted an agreed sum for the value of their securities, secured by three sureties. Also assignment of debtor's estate to trustee to be held upon trust for the said sureties. The trade creditors include S. Smith & Co., Ltd. (24*l.*); Erasmie Co., Ltd. (14*l.*); William Edwards & Son (10*l.*); Newbury & Sons, Ltd. (45*l.*); Wright, Layman & Umney, Ltd. (15*l.*); and Evans Sons Lescher & Webb, Ltd. (41*l.*).

GAZETTE.

Partnerships Dissolved.

BLAKENEY, H. T. W., and **CORNISH**, S., Dorking, medical practitioners, under the style of Blakeney & Cornish.
WILLIAMS, R. H. G., and **SCHLOSS**, L., Poland House, Oxford Street, London, manufacturers and sellers of radium preparations, under the style of the Rador Co.

Bankruptcy Acts.

ADJUDICATION.

SMITH, H. A., Boundary Road, Leicester, manufacturing chemist.

RECEIVING ORDER.

ASHFORD, E. C., Freehold Street and Gold Street, Northampton, chemist.

BIRTHS.

Authenticated notices are inserted without charge.

BUCHANAN.—At 50 Bridgegate, Irvine, on July 18, the wife of John L. Buchanan, chemist and druggist, of a son.

ODDIE.—At 59 Penge Road, South Norwood, S.E., on July 21, the wife of Major Sidney Oddie, dispensing and photographic chemist, of a son.

MARRIAGES.

Authenticated notices are inserted without charge.

GREAVES—WYDELL.—At St. Thomas's Church, Chesterfield, on July 20, Sydney Chater Greaves, junior partner of A. Greaves & Son, chemists, Chesterfield, to Florence Aida, second daughter of the late Mr. and Mrs. Oliver Wydell, of Wombwell.

KEGO—WATSON.—At 11 Collbridge Avenue, Murrayfield, on July 16, by the Rev. William Watson, M.A., West Kilbride (brother of the bride), and the Rev. J. Mitchell Watson (uncle of the bride), Robert Kego, Glasgow, to Dora, youngest daughter of the late Rev. William Watson, Kirkcudbright, and sister of Mr. J. Douglas Watson, chemist, Edinburgh.

TODD—NORTH.—At Christ Church, Addington, Durban, Natal, by the Rev. R. C. Handley Ensor, on June 27,

Arthur H. Todd, Ph.C. (Great Britain), Red Hill, Natal, to Norah A. A. North (*née* Paglar), of Umzinto.

WILSON—HATCH.—At the Church of St. John the Evangelist, Seven Kings, on July 4, George Thompson Wilson, Ph.C. (Ireland), to Harriet Violet, only daughter of Mr. Arthur Alfred Hatch, Chadwell Heath, Essex.

Silver Wedding.

MR. AND MRS. W. H. HOOLE celebrated their silver wedding on July 23. Mr. Hoole has represented Messrs. S. Maw, Son & Sons in the West of England for over twenty-six years, and has been with the firm for thirty-five years.

DEATHS.

Authenticated notices are inserted without charge.

BOYERS.—At Sligo, on July 18, Mr. Henry Boyers, Ph.C., F.C.S., J.P., proprietor of the Medical Hall, Knox Street. Mr. Boyers, who was a native of the Ballymote district of county Sligo, had been in business in Sligo since a few years after he passed the Licence examination in February 1882. He built up one of the largest businesses of its kind in the West of Ireland. He was very popular with all classes, and only recently was appointed to the Commission of the Peace for county Sligo. The funeral took place on Monday in Sligo.

HUGHES.—At Abercarn, on July 19, Elizabeth, wife of Mr. J. A. Hughes, Ph.C.

JORDAN.—At Bryndaredig, Pontardawe, on July 18, Mr. Esiah Jordan, chemist and druggist, aged sixty-seven.

MOORE.—At Desborough House, Desborough, on July 21, Mr. Jonathan Reuben Moore, chemist and druggist, aged fifty-eight. Mr. Moore, after his education at Kettering Grammar School, was apprenticed to Mr. Denston, chemist, Market Place, there, and passed the Minor examination in June 1880. Soon afterwards he acquired the business at the corner of Gold Street and Silver Street, Kettering, carried on by Mrs. Denston (now in the hands of Mr. Hitchman). There and also on the Rockingham Road, in the premises occupied by Mr. J. H. Thursfield, he carried on a successful business, disposing of both about twenty years ago, when, Desborough House having come into the market, he purchased the estate and retired thither with his father and mother. During his residence in Desborough he took an active part in the public life of the town and district. Upon the formation of the Northamptonshire Pharmacists' Association, about two years ago, he was unanimously elected President, and from the formation of the County Insurance Committee was the pharmacists' representative thereon.

NIXON.—At Dublin, on July 19, the Right Hon. Sir Christopher J. Nixon, P.C., Bart., M.D., aged sixty-five. Sir Christopher Nixon had been a member of the General Medical Council since 1909, having represented the Royal University of Ireland, and, when that University was dissolved, the National University of Ireland. He was one of the most distinguished of Irish physicians, and besides being an ex-President of the Royal College of Physicians of Ireland, was the first President of the Royal Veterinary College of Ireland. He was knighted in 1895, and was made a baronet in 1906.

WELLS.—At Kyneton, Australia, Mr. J. J. Wells, chemist and druggist, aged eighty-six. He was apprenticed at Boston, Lincs, to Mr. E. Harwood, and emigrated to Australia in 1854.

SPLEEN-DISEASE.—In a paper which he read before an audience of medical students at St. Petersburg, Dr. Manoukhin claims that he has achieved remarkable results in the treatment of tuberculosis and other diseases by Röntgenisation of the spleen with attendant leucocytolysis. It is said that M. Maxim Gorki owes his recovery to this treatment. Hamophilia is likewise reported to be curable by the same method. "The Times" adds that the x-ray treatment of the spleen has been practised in this country for a considerable time. In cases of leucocythæmia the improvement is said to be of a most "astonishing" character, but has not hitherto been found to be lasting.

PERSONALITIES.

Authenticated information for this section will be received by the Editor, and published, if not in the nature of advertisement.

MR. THOS. H. WARDLEWORTH, F.L.S., of Montreal, is now in this country with Mrs. Wardleworth and family.

THE late Sir Joseph W. Swan, F.R.S., left estate of the gross value of 60,097l. 13s. 5d., of which the net personality is 58,344l. 2s. 7d.

SIR CLEMENTS MARKHAM, K.C.B., F.R.S., the veteran Arctic explorer and geographer, attained his eighty-fourth birthday on July 20.

ALDERMAN ROBERT WOOLLEY WALDEN, pharmacist, 65 Elizabeth Street, Eaton Square, S.W., at the Metropolitan Poor-Law Conference on Tuesday gave an authoritative survey of the Metropolitan Asylums Board's position.

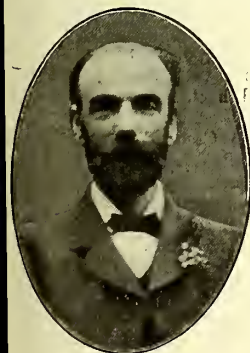
MR. JOHN W. RICHARDS, chemist and druggist, Tonypandy, was among those who took the oath as a J.P. for the County of Glamorgan at Cardiff on July 14. Mr. Richards, who has been in business in Tonypandy for twenty-eight years, has taken an active part in public work and is well known and highly respected in the district.

MR. LIONEL LAURANCE, official instructor to the Workshopful Company of Spectacle Makers, contributes to "Answers" of July 25 an interesting article entitled "Test your Eyes," in which he shows how a seaside holiday brings to notice defects of vision. Chemist-opticians in seaside resorts should turn the article to good business account.

MR. ROBERT DARLING, chemist and druggist, late of Blyth, Northumberland, and long known in the south-east portion of the county as "the Blyth chemist," is now living in retirement on the edge of Epping Forest, the home of his daughter and son-in-law. Mr. Darling was in business in Blyth from 1854 till 1907 and took a practical interest in all matters relating to the public welfare, and especially in educational matters. Mr. Darling this month completed his eightieth year.

MR. DAVID MAXWELL LENGDEN, dispensing chemist, who is retiring from the Coventry Provident Dispensary after thirty-seven years' service as chief dispenser, has been handed a cheque for twenty guineas, forming the voluntary subscriptions of the staff, committee, and members; a framed photograph of the staff is also being presented. Mr. Lengden was born at Salford in 1855, and was apprenticed there at a time when the hours were from 7 A.M. to 10 P.M. After his apprenticeship he was an assistant at Leeds, then was dispenser to a medical practitioner in London, and afterwards at the G.W.R. Dispensary, Swindon. In 1879 he was appointed to

take charge of the dispensing department at the Coventry Provident Dispensary. Then the institution was only open a few hours each day, and the dispensing-window opened each half-hour to receive prescriptions. Soon after taking charge Mr. Lengden arranged to keep the dispensing department open from 9 A.M. to 7 P.M. He passed the Minor examination in April 1893. He has trained many who are now pharmacists, and during the last four years no fewer than five who have served their apprenticeship with him have passed the Minor examination. One of these informs us that "Mr. Lengden had a happy method of getting his staff to carry out the spirit of his wishes, showing a consideration and courtesy which on their affection as well as their service. Many old apprentices still keep in touch with him."



MR. D. M. LENGDEN.

MR. HENRY WILLIAMSON, chemist and druggist, Congleton, is a sweetpea grower, and won the first prize and the local amateur five-guinea silver challenge cup for six distinct varieties at the Congleton Rose and Sweet Pea Society's Show held on July 11, also first prize for a single vase of white, and first for a decorative vase of three varieties. He also took first prize in the open class for a single vase (any variety) at the "Staffordshire Sentinel" Show, held at Hanley on July 16, and second prize for six varieties in the open section. Mr. John Vaughan, chemist and druggist, Audlem, also took a prize in the latter class.

DR. SAMUEL RIDEAL, F.I.C., F.C.S., has been adopted as the Liberal candidate for Salisbury at the next Parliamentary Election. The sitting member is Mr. Godfrey Locker-Lampson. Dr. Rideal is a doctor of science of the London University, and held the distinction of being, at the time he was capped, the youngest bachelor to secure the doctorate. Since then he has been attached to analytical and technical chemistry, and is now a leading authority in what may be called public-health chemistry. His son, Dr. Eric Rideal, specialises in electro-chemistry. They are in partnership, and this gives Dr. Samuel Rideal the opportunity for a wider participation in politics than he has been able to take hitherto. He has long been a member of the Committee of the National Liberal Club and a lecturer in social questions, yet few who have met him in chemical circles have discovered that he is a politician. He is a man of commanding appearance, gifted with a fascinating smile, a good voice, and unfaltering utterance.

POISONING FATALITIES.

Of the six poisoning fatalities here recorded, two were accidental:

"*Jetsem*."—William J. Davies, Garth, died last week from this poison. At the inquest Dr. Walter Kirkby said that jetsem is a compound of aniline oil, and an ounce of it is a fatal dose. The jury returned a verdict of suicide.

Pills for Anæmia.—Cecilia E. Stobie (2) died at Gowkhall, Dunfermline, after eating pills which she found on a table. They were being used by an older sister for bloodlessness.

Spirit of Salt.—The Tiverton Coroner concluded an inquest on July 17 regarding the death of Joshua Davis (54) from spirit of salt intentionally taken.—Charles Taylor (35), a Smethwick engineer's labourer, has committed suicide with the same liquid, and George W. Law (49), a Birmingham blacksmith, also.

Vermin-killer.—A verdict of accidental death was given at a Landport inquest on the death of Harriet M. L. Roberts (10), who had eaten a piece of cake found in the street. Mr. R. P. Page, F.I.C., the Portsmouth analyst, had found arsenic in the cake (up to 60 grains). The coroner and the jury expressed the opinion that the cake had been poisoned with arsenic for the purpose of killing rats, dogs, or cats.

Reprints of the Deputation Proceedings.

We have been asked to supply reprints of the Report of the Pharmaceutical Insurance Conference to Mr. Masterman in regard to the discounting of panel chemists' accounts. We have done so at cost, the order coming from a County Pharmaceutical Committee, which is to distribute them to all the panel doctors. We are keeping the matter in type still. It makes a four-page sheet, the fourth page being blank, so that it folds clean. On the third page is the inscription: Reprinted from THE CHEMIST AND DRUGGIST, and submitted with the compliments of the — Pharmaceutical Committee. We can supply others at so much per hundred copies, but orders should be sent to us without delay.

CASTORUM.—The "Star" reports that the beaver is in danger of becoming extinct in Canada, and it cannot be farmed, for it requires large areas to furnish food. Other fur-bearing animals, however, are being extensively farmed in Canada, particularly the silver fox.

PHARMACEUTICAL SOCIETY OF IRELAND.

Council-meeting.

THE Council met at 67 Lower Mount Street, Dublin, on Tuesday, July 14, this being the first occasion in which the Council has met on the altered date provided for by the new Regulation. Mr. D. M. Watson presided, and the following members of the Council were also present: Dr. Dunlop, Dr. Walsh, Messrs. Jas. Tate (Vice-President), J. H. Bowden, G. D. Beggs (Hon. Treasurer), John Smith, and W. F. Wells.

THE BADGE OF OFFICE.

Mr. BEGGS said that as this was their first meeting after the receipt of their Badge of Office, he begged to be allowed the privilege of passing it around their President's neck.

The ceremony was performed amid applause.

[The engraving is from a photograph of the Badge, which measures 2½ in. by 2 in. It is a fine example of modern Irish jewellery, executed in 18-carat gold and enamel by



Messrs. West & Son, Grafton Street, Dublin. The design is a modification of the Arms of the Society. In the centre is a raised boss in coloured enamel, with a red cross on a white background, a blue shield with a golden harp surmounted by a crown being superimposed. The boss is surrounded by a garter in blue and gold, with the words "The Pharmaceutical Society of Ireland: MDCCCLXXV" in gold lettering. The Badge is worn with a ribbon of St. Patrick's blue silk. We suggest that, as in the case of

the Great Britain Badge, the ribbon should have upon it bars for each Past-President of the Society, beginning with Sir D. J. Corrigan, Bart., M.D., the first President. Fourteen bars might be provided forthwith. Who will begin?—EDITOR C. & D.]

The PRESIDENT said: Gentlemen, I am glad to be, accidentally, the first President who has worn the Badge. I appreciate the honour very much. I hope I shall not do it any discredit. The purchase of this Badge has been discussed for a great many years, and at last we have plucked up courage to spend the money to get it. It is, I think, a useful thing, from the Society's point of view, to have a Badge of this kind, because, as I stated when you elected me to this chair, this Society in particular has been too modest in public matters. We have not attended, as we ought to have attended, public functions, and we have not advertised ourselves, as we ought to have done, as a Society; and, as I also said at that time, I think the status of pharmacy would be improved, and our position with the public would be improved, if we did a little more self-advertising. It is a thing that has to be done nowadays; and although it is not (to most of us) a congenial thing to do that sort of advertising, it ought to be done—though, of course, not in an aggressive way—in order to get justice done to our craft and to make ourselves more felt as a Society which has a useful function in the social system. (Applause.)

The REGISTRAR read a letter from Mr. James Michie, M.P.S.I., thanking the President and Council for their kind sympathy in his recent bereavement.

COUNCIL-MEETING DAY.

The REGISTRAR read the following letter from the Privy Council Office, Dublin Castle, dated June 15, 1914:

"SIR,—With reference to your letter of February 6 last, I am directed by the Lord Lieutenant to transmit herein

copy of the 'Dublin Gazette' of the 12th inst., in which is published an Order in Council approving of a Regulation of the Pharmaceutical Society of Ireland, dealing with the date of meetings of the Council of the Society. Copies of the Order are also enclosed.—I am, Sir, your obedient Servant, E. O'FARRELL."

The resolution of the Council, approved by the Order in Council, is as follows:

"That Meetings of the Council Regulation I. be rescinded, and the following substituted therefor: 'The Council shall meet on the second Tuesday of every month at the hour of 3 P.M., or on such other day, or at such other hour, as the Council may, by resolution, from time to time direct; and on such other days as the President, or, in his absence, the Vice-President, shall appoint by special summons, to be issued by the Registrar, sent by post to the registered address of each member of the Council, four clear days before the time of meeting.'"

VERONAL SCHEDULED.

The REGISTRAR stated that the same copy of the "Dublin Gazette" contained the Privy Council's approval of the resolution passed by the Royal College of Physicians, providing that diethylbarbituric acid or barbatone and other alkyl, aryl, or metallic derivatives of barbituric acid, whether described as Veronal, Propional, Medinal, or by other trade name, mark, or designation, and all poisonous urethanes and ureides, should be deemed poisons and be added to Part II. of Schedule A of the Act to Regulate the Sale of Poisons in Ireland, 33 and 34 Victoria.

RECOGNITION FOR THE COLONIES.

The REGISTRAR submitted a letter from the Colonial Office transmitting, for the information of the Council, a copy of a despatch which had been received from the Governor-General of Canada on the subject of the Pharmaceutical Act of Manitoba. The despatch included the following letter:

"Government House, Winnipeg, June 5, 1914. SIR.—I have the honour to inform you that my Attorney-General advises me, in regard to the Pharmaceutical Act, being Chapter 78 of the Statutes of 1914, as follows—viz., 'Under Section 19 of the said Act Council may, in its discretion, accept the diploma or authenticated certificate of examination of any other competent body out of the Province of Manitoba.' Should the Council of the Pharmaceutical Society discriminate against any competent examining Board, it would be a matter with which the Legislature should deal, and the Government would be prepared to consider an amendment to the Act if that discretion was arbitrarily used to bar out any qualified chemist.—D. C. CAMERON, Lieutenant-Governor."

The PRESIDENT said this was a very satisfactory finish to the correspondence they had had, and the only thing he should hope would be that the authorities in Winnipeg would not get the idea that the Council were acting in any way objectionably, but would understand that they were merely pointing out what their qualification was, and that it was a qualification which deserved to be recognised by them. They had not, he thought, suggested that the Winnipeg authorities were treating them badly, but had pointed out that they had not recognised the standing which the passing of their examination carried. He bore testimony to the manner in which the late Mr. Joseph Chamberlain fought for them in 1900, when he was Colonial Secretary, to secure the recognition of their Licence in the Colonies. In that year Mr. Chamberlain addressed a circular to all the Colonies which did not recognise them, and he put the matter in such a forcible way that since then they had secured recognition.

The REGISTRAR: Every Colony throughout the Empire now recognises our Licence.

The PRESIDENT: Mr. Chamberlain pointed out at the time that the discrimination appeared to have had its origin in the overlooking of the fact that the Pharmacy Act, 1868, applied only to Great Britain, separate provision being made for Ireland by the Pharmacy Act, 1875, and the Amendment Act, 1890, and he added of the circular:

"Should the Pharmacy Law, if any, of the Colony under your Government not treat Irish pharmacists as equally entitled to recognition with British pharmacists. I shall be glad if, when any modification of it is under consideration

the claims of Irish pharmacists to equal privileges can be borne in mind."

The Registrar was directed to convey the thanks of the Council to the Colonial Office for the action taken in the matter.

PROSECUTIONS BY THE SOCIETY.

The Registrar submitted reports from Messrs. A. & J. Robinson, solicitors, in reference to recent prosecutions at the suit of the Society. They reported the convictions secured in all the cases which have recently been mentioned in the *C. & D.*

PRELIMINARY REGISTRATION.

Messrs. St. Clair E. J. Barrett and Matthew McRoberts, who submitted certificates of other bodies, were admitted to Preliminary registration.

The Editor of "Meyer Brothers' Druggist," of St. Louis, Mo., U.S.A., thanked the Council for a Calendar.

CHANGES OF ADDRESS.

Letters were submitted from the following, notifying changes in their addresses: Mr. O. W. Roulette, Ph.C., to Wine Street, Sligo; Mr. Thos. G. Blair, R.D., to 134 Ormeau Road, Belfast; Mr. John Leo Farrell, R.D., to Medical Hall, Ennis, co. Clare; Mr. Percy Gibson, R.D., to c/o Mr. R. H. Bryson, dispensing chemist, Montreal, Canada; and Mr. W. J. Nolan, R.D., to 43 Main Street, Dungarvan, co. Waterford.

DEATHS.

The Registrar submitted certificates of the deaths of Mr. Bernard J. Costello, Ph.C., Terenure, Dublin, and Mr. Peter Walsh, Ph.C., Dublin, and reports of the deaths of Mr. George Myles Ryan, Ph.C., Dublin, and Mr. John Refausse, Ph. Assistant, Dublin.

ELECTION OF EXAMINER.

On the motion of Mr. BEGGS, seconded by Mr. TATE, Mr. John McBirney, M.P.S.I., M.R.C.V.S., was re-elected an Examiner to conduct the Pharmaceutical and General Chemistry Division of the Pharmaceutical Licence examination.

MEMBERSHIP.

On the motion of Mr. WELLS, seconded by the HON. TREASURER, the following were elected to membership: Mr. Henry Conyngham, Ph.C., 40 Waterloo Road, Dublin; Mr. James T. Dwyer, Ph.C., the Pembroke Pharmacy, Shelbourne Road, Ballsbridge, co. Dublin; Mr. Samuel John Hudson, Ph.C., 355 Beersbridge Road, Bloomfield, Belfast; Mr. Francis E. Preston, Ph.C., 4 Ogle Street, Armagh; Mr. Sydney J. Richardson, Ph.C., Church Street, Dungannon, co. Tyrone; Mr. James F. Seale, Ph.C., 24 Parnell Street, Clonmel, co. Tipperary; Mr. Denis Slattery, Ph.C., the Medical Hall, Castlepollard, co. Westmeath; and Mr. Joseph A. Walsh, Ph.C., Grosvenor House, Wellington Place, Belfast.

On the motion of Mr. TATE, seconded by Mr. WELLS, the following were nominated for membership: Mr. John Anthony Burke, Ph.C., corner of St. Patrick Street and Grand Parade, Cork; Mr. Michael Howard, Ph.C., the Medical Hall, Kanturk, co. Cork; Mr. Eugene H. O'Sullivan, Ph.C., the Medical Hall, Newmarket, co. Cork; and Mr. John Montgomery, Ph.C., Royal Avenue, Belfast.

On the motion of Mr. SMITH, seconded by Mr. BOWDEN, Mr. James Keating, R.D., 17 Moore Street, Dublin, was nominated for election as an associate druggist.

REPORTS ADOPTED.

Reports from the following were received and adopted: The Law Committee, the House Committee, the School Committee, the Certificates Committee, the Declarations Committee, and the Preliminary Examiners.

Mr. W. R. AKED, chemist and druggist, has opened premises in Greaves Road, Lancaster.

Mr. WILLIAM PALMER, 107 and 109 Queen Street, Maidenhead, has sold his business to Mr. R. E. White, chemist and druggist.

Society of Chemical Industry.

Annual Meeting.

OUR report in last week's issue (p. 43) left off at the conclusion of the meeting on July 15. Afterwards the members and their friends were the guests of the local Section at luncheon in Victoria Station Hotel.

No speeches were made, so as to allow of an early start for Southwell Cathedral and Brackenhurst Hall. A party of about 120 travelled by motor *chairs-à-bancs* from the hotel entrance—a considerable number also travelling by private cars and train. The weather was ideal, warm without blazing sunshine. The route lay through typically rural scenery—by the villages of Carlton and Burton Joyce. On arrival at Southwell the Cathedral was a pleasant surprise to those of the party to whom it was unknown. The gem of the structure is the Chapter-house with its magnificent stone carving. A too hurried inspection was also made of the ruins of the old palace of the Archbishops of York, which lies alongside the Cathedral. The journey was then continued to Brackenhurst Hall, the residence of Mr. W. N. Hicking, a member of the local Section largely interested in the lace industry of Nottingham. The grounds are delightfully laid out—the rose garden, the Old English garden, and the lawns being specially noteworthy. The welcome and hospitality extended to the Society were whole-hearted. After tea a pastoral playlet was given on the lawn.

In the evening a reception was held in the Castle by the Mayor of Nottingham. This was largely attended, and the Castle, a modern structure completed in 1878, lends itself admirably to functions of this kind. The guests were received by the President, Dr. Messel, the Mayor and Mayoress, and the High Sheriff and his wife. The picture-galleries attracted considerable attention.

INSPECTING LOCAL INDUSTRIES.

The following morning (Thursday) was devoted to the inspection of various works in Nottingham and Derby. In Derby the works visited were the Rolls-Royce motor-car works, the Royal Crown Derby works, and Bemrose & Sons' printing-works.

The journey to Derby was made under the guidance of Dr. R. M. Caven of the University College. On arrival Mr. L. Archbutt, chemist to the Midland Railway, and Mr. John White, the Derby county analyst, guided the party to the various works.

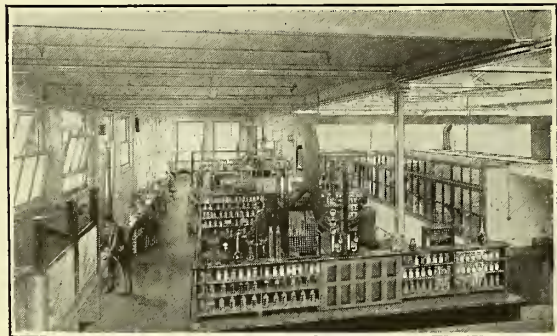
In Nottingham the Local Committee had been fortunate in gaining access to the most interesting and representative works in the town. These were divided into groups. Sir John Turney, the Chairman of the Nottingham Section, conveyed a party to the lace-works of Messrs. Birkin & Co. and the Castle tobacco-factory of Messrs. Player, of Navy Cut fame.

At the leather-works of Messrs. Turney Bros., Ltd., of which Sir John Turney is managing director, the party was welcomed by Mr. I. T. Wood, the works-manager, a leather-chemist of worldwide reputation. The party was highly interested in the various processes involved in the manufacture of light leather, in which the firm stands supreme.

BOOTS LTD. LABORATORIES.

This party then journeyed to the headquarters of Boots Cash Chemists, and was there taken charge of by Mr. John Boot and conveyed to Island Street, to inspect the new pharmaceutical laboratories. There the party was divided up into smaller groups, and under the leadership of Mr. Hollhouse (the works-manager), Mr. Harvey, Dr. Bowes, and Mr. Wilkie, was taken on a tour of inspection. By lift the party was taken to the top floor—in which are situated the main pharmaceutical and the analytical laboratories. The analytical laboratory was first entered. This is fitted in teak, and consists of a main laboratory in which the routine analyses of the various chemicals, etc., are carried out. The benches for routine work are fitted in a novel manner with all the various appliances that modern chemistry demands. The

system of ventilation adopted is worthy of special mention. Each bench is fitted with water-baths and water-ovens, the waste steam being carried off by teak hoods, which, rising from the bench, unite with a main flue, which runs the length of the main laboratory, a constant current of air being maintained by a system of fans. On one side of the routine laboratory are the library, the



NEW ANALYTICAL LABORATORY.

material medica room, the water-analysis room, and the special investigations room. At the end comes the polarimeter-room and the glass store. Continuing the journey to the starting-point we have routine benches on one side, and on the other the larger fume-cupboards, the furnace-benches, the balance-benches (in which the balances are enclosed in specially constructed glass chambers), the standardising-room, where the calibration of weights, flasks, pipettes, burettes, etc., is carried out. Lastly comes the main office. The whole arrangement is fresh and practical, and reflects great credit on Mr. Harvey, who designed it.

The party then entered the storage-room (wets) of the galenical laboratory. An impressive series of glass-lined iron storage-vessels was inspected, then the arrangements for cold storage and the scale department, which was being fitted up. On the second floor the "dry" department was in full swing, and the all-pervading odour of drugs at once indicated the nature of the department. The basement, where all crude materials are stocked, attracted great attention. The elevators for lifting casks and bales interested the party, as also did the electric trolley fitted with the new Edison storage-cells.

Another party, under the leadership of Mr. Pentecost, visited the Raleigh cycle-works, and later came on to Messrs. Boots to join the party from the leather-works. After leaving Island Street the main offices and printing-works were visited.

GARDEN-PARTY.

In the afternoon the members and their friends journeyed by special train to Gedling House to enjoy the hospitality of Sir John Turney.

Gedling House is most pleasantly situated, a few miles from Nottingham. Sir John and his daughter, supported by Dr. Messel, extended a hearty welcome, and an immediate adjournment was made to the lawn. Unfortunately the weather turned to rain, but the tables were quickly moved under the spreading trees of the park, and a very pleasant time was spent in spite of persistent rain. The journey back to Nottingham was made during heavy rain. Gedling House is a delightful mansion.

ANNUAL DINNER.

Over a hundred members sat down to dinner at the Exchange Hotel in the evening. There were many ladies present. A delightful spirit of camaraderie permeated the gathering, and the speeches were perfect alike in tone and length. Dr. Henderson, in proposing "The Society of Chemical Industry," insisted on the necessity of more original matter being presented to the Sections, as well as facing the future with new weapons. "The

City and Institutions of Nottingham" was proposed, in the absence of Dr. Carpenter, by Mr. W. F. Reid, in an impromptu speech. Professor Kipping, who responded after the Mayor, struck the right note. Mr. Tyrer once more showed the keen interest he takes in all that concerns the Society. He looked forward to increasing the membership from the present figure of 4,000 to at least 20,000 in the near future. Dr. Russell Moore (New York) proposed "The Guests."

FRIDAY'S PROCEEDINGS.

The whole-day excursion on Friday was to the "Dukeries," and in the evening a reception was held at Sir Jesse Boot's summer residence, "The Plaisance." This, the final item of the programme arranged by the local Section, was largely attended. The grounds lie by the side of the Trent, and on Friday evening they were at their best, illuminated by lanterns suspended among the trees. Sir Jesse and Lady Boot welcomed the members, and after



PLAISANCE

From a photograph taken on Saturday afternoon, July 18, when between two and three thousand girls were entertained by Lady Boot in honour of the wedding of Mr. and Mrs. John Boot.

a little time spent in viewing the grounds, an entertainment of gymnasium-work was given by a contingent of the girl employes. This was followed by a choir, drawn again from the firm's employes, singing a number of songs in excellent style. Adjournment was then made indoors, where Betty Bolton, a Nottingham lady of eight summers, entertained the Society by her songs in English, French, and German. Perhaps her best performance was a mimicry of a conversation between two Nottingham lace-workers in the pronounced Doric of the neighbourhood. A light supper followed.

INSURANCE NOTES.

MR. R. L. GIFFORD, Ph.C., J.P., has been reappointed by the Insurance Commissioners to membership of the Blackburn Insurance Committee.

MR. OAKLEY, the only panel chemist in the Brinscall and Withnell locality, has been exceptionally busy, as 300 insured persons have suffered from a mysterious ailment which is epidemic in the district, and the prescriptions have occupied him far into every night.

UNOFFICIAL PRESCRIPTIONS.—A panel chemist in London informs us that he was called upon at 11.30 p.m. to dispense a panel practitioner's prescription written on a plain piece of paper, the doctor having visited the insured person at his own house, and, not having any official forms with him, wrote it on a piece of ordinary note-paper. The panel chemist sent this up to the London Insurance Committee, along with his statement, the charge being 4d. The prescription was returned to the chemist, and, as not being "written on the form provided by the Committee, liability for the same cannot be accepted." The value of the prescription was accordingly deducted from the total of the account. We may say that under the regulations it is not open for the Committee to do anything else than it did, and chemists are not authorised to dispense prescriptions at the expense of the Drug Fund which prescriptions are not written on the official forms. In such cases as the above it is advisable for the chemist to get the doctor to supply another prescription on the proper form.

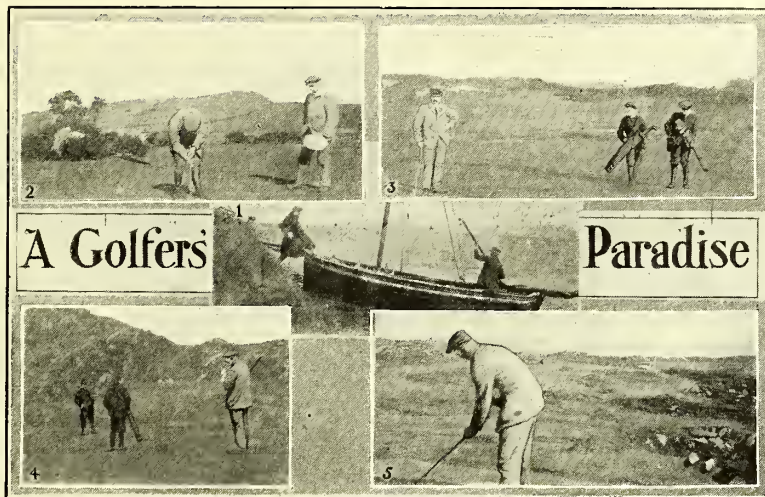
IN LEISURE MOMENTS.

A PHARMACIST and man of affairs, who resides not far from the banks of Britain's marvellous river the Clyde, sent us not long ago half-a-dozen photographs of a golf-course on which he had played at Easter along with a friend who, like himself, had spent too much time and brain on Insurance dispensing. We group them together. The course is on one of the Hebrides. (1) shows how to reach the island, (2) is the club-house (you hang your best coat on a whin-bush), (3) is the fifth hole, (4) is called Renfield Street, as the fairway resembles that declivity, and (5) is the Valley of Despair. Our friend tells us:

"The course is a private one, but no objection is taken to anyone playing over it. As there is no accommodation for boarders, except in the little hotel, which only provides for six or seven guests, there is small likelihood of its natural charms ever being sampled by many enthusiasts.

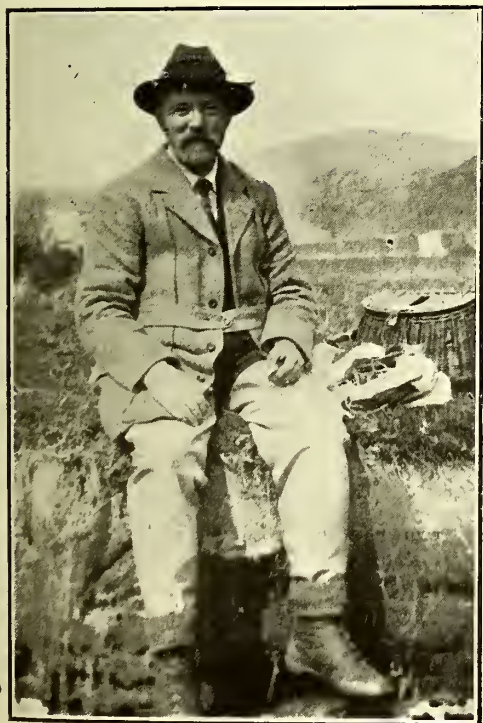
the first and fifth holes there is a somewhat formidable hazard in the shape of a marshy pool, which holds many a ball; but for sheer unnerving difficulty the seventh is not inappropriately titled the 'Valley of Despair.' Driving from a natural plateau, the tee-shot must be a bee-line for

the guide-post. There is marshy ground to the left of it, and to the right are the top-ends of three concealed gullies. If the ball enters one of these it immediately rolls right to the foot, and the task confronts the player of lofting it over a series of crags as high as a house. Certainly the hazards that one encounters are calculated to encourage a bold game, and as a change from the solving of Insurance conundrums and the perusal of fat budgets of



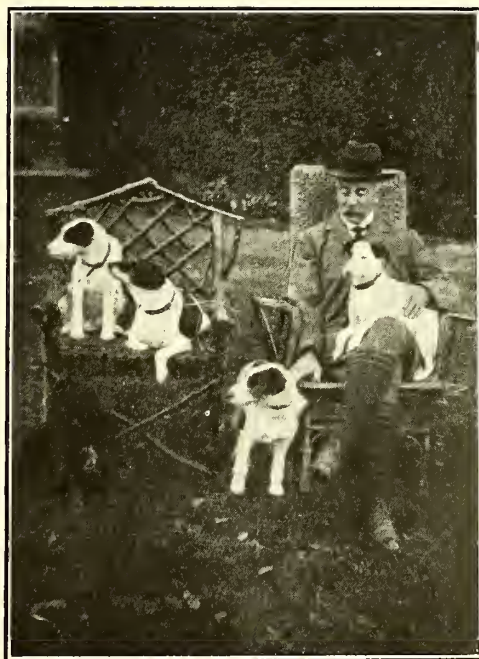
typewritten foolscap from York Place it was mighty fine."

The writer does not authorise us to give his name; wisely, for there are so many pharmaceutical golfers that his paradise might be besieged. It seems to us too good to be real. In spite of golf, there are still some fishers in the craft, and we give two of them, Mr. Peter Boa, Edinburgh, and Mr. H. E. Stevenson, of Messrs.



MR. PETER BOA, PH.C.

There is nothing of the handiwork of man about its construction but the few guide-poles to the 'blind greens' and the tins in the holes. It needs little more, and is as fine a sporting course as one could wish to play over. At

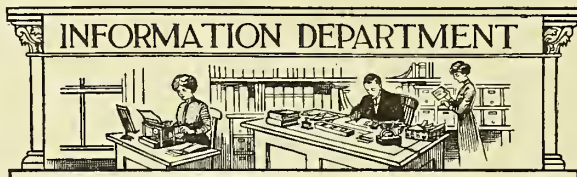


MR. H. E. STEVENSON.

H. E. Stevenson & Co., 122 Great Suffolk Street, London, S.E., who is also a dog-lover, it may be noted, but salmon-fishing is his most absorbing leisure occupation and favourite sport.

Postal Address

THE
CHEMIST AND DRUGGIST
(Information Department).
42 Cannon Street, London, E.C.



Telegraphic Address:
"CHEMICUS CANNON
LONDON" (two words).
Telephone Number:
BANK 852 (two lines).

INFORMATION WANTED.

Postal or telephone information as to the names and addresses of the agents for or makers of the undermentioned articles is solicited. Please address as above.

- 36/7. "Eucrazy" or "Eucrazine," a cure for drunkenness.
36/21. C a v a n a g h ' s "Smokers' tooth-powder."
35/32. Severyn Amuroff's "Mixture Universelle" (for the hair).
34/9. Thompson's "Kalydor" soap.
37/65. "Pax" insect-bite preventive.
37/54. Jones's "Rheumaticuro."
37/55. "Nobio" toilet-paper.
37/56. "Sedærol" oil of lemon.
39/19. Shepherd's "Little Comfort" hot-water bottle No. 17,456: where obtainable?
38/17. "Probat" corn-plaster.
31/3. "Fleece" brand phosphate of soda.
22/66. Makers or first-hand suppliers of glass balls for smelling-salts.
31/70. Pink celluloid respirators (Mackenzie's).
31/56. "Alstonia Constricta" bark: London supply.
20/12. "Million" brand toilet-soap.
21/48. "Glycamyl of Roses": supply.
18/31. Hardy's "Anti-Midgc."
23/74. "Hæmostal" tablets.
25/9. Hooper's digestive candy.
25/3. Suppliers of freezing-mixture in glass-tubes for cooling beverages.
25/67. Robertson's "Fairy Brush" application for rheumatism.
39/64. "Hygienic Toilet Novelties Co.": address.

INFORMATION SUPPLIED.

Inquiries in regard to the following articles have been answered. The information will be given to others who send a stamped and addressed envelope for it to the above address.

- Antileprol, 35/38
Antiphlogistine, 33/34
Anusol ointment, 39/36
Blair's gout-pills, 37/55
Borie-acid socks, 31/74
Bromalbin, 31/65
Brown's liver-invigorator, 29/39
Cazo, 26/12
"Cham-Swim" water-wings, 33/43
Chlorine-bulbs, 39/17
Cleaver's "Kasemol" (for Rhodesia), 38/42
Colalin-tablets, 34/10
Company registration, 26/61
Cooper-Kemp sheep-marking liquid, 36/62
Cuprocitol, 31/2
Curley's "Ideal" safety-razor, 22/66
Cyagol, 24/44
Deafness-instruments, 38/170
Delvoix pomade hongroise, 25/46
Dutch drops (Haarlem maker), 25/35
Eauzate, 23/74 and 25/9
Effervescent-tablet makers (Russian inquiry), 30/31
"Elco" preparations, 37/66
Electric massage apparatus, 38/17
Equinoint, 32/36
Ext. Anhalonium Lewinii, 30/4
"Fairy Brush" (for rheumatism), 25/67
Fenolin vaporiser and fluid, 38/44
Gallipoli oil, 27/280
Gehrig's necklaces, 39/33
Gilbertson's feeders, 24/45
Hall's wood-violet, 38/3
Hope's cake sheep-dips, 38/21
Hygiamia, 23/420
"Irisweal," 39/11
Jellax, 39/18
Jesolin cream, 27/74
Kennedy's Pinus Canadensis, 31/70
Larline paint, 25/46
Lasin, 34/12
Laxophen, 27/28
Liebe's food preparations, 32/35
Liebig's soluble food, 26/13
Lundborg's perfumes, 32/34
Marrow extract, 39/16
Max Hilbert's specialities, 37/35
Melubrin, 29/40
Merlusan, 22/55
Mothersill's sea-sickness remedy, 21/52
Myelocene oil, 27/61
Nail-polish leaves, 35/39
Nicolle's vaccine, 19/22 and 31/4
Nisbet's specific, 36/49
"No. 83" suspensory bandages, 23/3
"Offord" hygienic truss, 38/52
Oleic acid, 23/34
Paraphenylenediamine, 37/68

- Pearsall's dental silk, 18/31
"Perfectum" feeder, 37/7
Poliplasta, 38/38
Prescription-books, 25/65
Prophylactic tooth-brushes, 38/69
Pynoline disinfectant, 28/320
Ratinol, 39/32
Refills for "Flospick," 20/44
Revalenta Arabica, 23/42
Rogen beetle and rat virus, 18/31
Roncegno tonic, 20/44
Saltpetre refiners, 30/44
Salvano's (Dr.) santal perles, 23/71
Sanoglobin, 27/36
"Security" feeder, 26/14
Soapstone fingers (special size), 37/57
Soothing-teats, 31/53
Sorbefacin, 29/56
Squibb's preparations, 32/33
Sylvia toilet specialities, 28/32
Tyramine, 39/31
Urodonal, 35/33
Vinegar plant, 26/15
Walker's disinfecting-powder, 27/57
"Yanatas," 31/70
Yardley's shaving-stick (for Holland), 26/28
Zap, 38/2

An Exhibition of Ideas.

It was a happy notion of the National Cash Register Co., Ltd., to stimulate shop assistants in the art of poster-designing. There is now on exhibition in the National Cash Register Lecture Hall, 225 Tottenham Court Road, London, N.W., about two hundred posters designed by assistants engaged in various retail businesses. The subject given to the competitors was the National Cash Register, and the company supplied each competitor who asked for them with suitable paper and crayons to make the designs. We had a walk round the exhibits on Tuesday afternoon, when it was opened by Mr. Thomas Russell, President of the Incorporated Society of Advertisement Consultants, and were struck by the fertility of ideas which is reflected in the majority of the posters, and many of the ideas were exceedingly good. For example, No. 13 is a sketch which brings in an old-fashioned druggist's shop to drive home the idea that Dr. World's Natural Cure for Money-making is a National Cash Register. Another was to the effect that "You can beat an egg" (a sketch of the process showing how it is done), and then the poster went on to say, "but you cannot beat the National Cash Register." In most cases the drawings are not art, but the ideas are there, pithy wording, and more than enough to convince any employer of assistants that it is worth while fostering their ideas as to how goods can be sold. We understand that the idea of this competition was the result of a prize-contest of the same nature for the employes of the company. A number of novel ideas were submitted from all branches of the organisation, many from least-expected quarters. Mr. John H. Patterson, the President of the company, hearing of this, suggested that shopkeepers might benefit in a similar way if their assistants were encouraged to interest themselves in the important subject of window-card advertising. The first prize is 3*l.*, the second 2*l.*, as well as three prizes of 1*l.* each and four of 10*s.* each, while for the public—that is to say, those who visit the exhibition—twenty half-sovereigns are to be set aside, and they are to be given to those who most nearly approach the opinion of the advertising poster experts who judge the exhibition. They are Messrs. John Hassall, R. I., John Hart, T. Swinborne Sheldrake, Marcus Smith, and Thomas Russell. The exhibition is to be open all this week, but we would suggest that the National Cash Register Co. might keep it open a little longer, as many will not learn of it until Saturday. Mr. Banwell, who has charge of the department, is an enthusiast in such subjects, and at the Frascati luncheon after the opening he, as an old shop-assistant, spoke of the talent that has been lying latent among that class.

THE IMPORTS OF HONEY into the United Kingdom during 1913 were 31,815 cwt., valued at 50,673*l.*, against 23,097 cwt., valued at 36,097*l.*, in 1912. Of the 1913 imports, 7,138 cwt. (11,646*l.*) came from the West Indies and 6,266 cwt. (7,755*l.*) from Chile.

OBSERVATIONS AND REFLECTIONS.

By Xrayser II.

Mr. Masterman

has cleared the air by his reply to the deputation of July 15. We now know where we stand, what we may reasonably expect with regard to the settlement of our accounts hitherto, and what our outlook is. The facts, it is true, were there for us to read, but they are now read for us in such a way that we cannot mistake their meaning. And Mr. Masterman's reading is, from his point of view, unanswerable. We have agreed experimentally to supply medicines on certain conditions. We are not finding the experiment quite satisfactory, but this fact gives us no claim, legal or moral, against the Government. There are, moreover, good reasons for blaming our own laxity, with regard to Regulation 40, for the position in which we find ourselves, and while this continues we can show no ground on which the Government should even consider our claim. At this point Mr. Masterman again reminds us that the whole arrangement for medical benefit is an experiment. It does not rest with us, or even with Government and us alone, to say whether it is to continue or not. It is the panel system as a whole—as it affects patients, doctors, chemists—that is on its trial. We may, indeed, affect the issue. At present the greatest menace to the system comes from those doctors against whom we are required to use Regulation 40, and much may depend upon our action under this. There are, however, other and larger considerations behind—the efficacy of Regulation 40 is one of them—hence Mr. Masterman's proposal for a committee, representative of all interests, to consider the whole question. Clearly the situation demands careful walking: the "ultimate form of the service" may depend on the next step taken. It is in these circumstances reassuring to find Mr. Masterman so appreciative and sympathetic, and so hopeful that the medical profession as a whole will co-operate with us.

Sir William Crookes's Presidential Address

at the annual meeting of the Society of Chemical Industry foreshadows some extraordinarily interesting developments as the result of the rapid strides being taken every day by technical chemistry. Some of these have already astonished the world, such as the methods now perfected of producing nitrites from the atmosphere, on which discovery alone the human race may depend for a perennial source of food supply. We have been talking of this for years, but it is now a well-established fact, and, as synthetic ammonium sulphate is also to be produced, we may cease worrying about what is to happen a few hundred years hence, when the soil is exhausted. While the social economist will rejoice, I fear that the shareholders of gas companies, many of which now get their profit from "residuals," may not be so happy. Possibly we may, indeed, see a rise in the price of gas to make up for the depreciation in "sulphate," but, on the other hand, the fact that cresol and phenol are going to come into fashion for use in agriculture may help to redress the balance.

The P.A.T.A.

is not a debating society, and if even a debating society, with only an academic interest in the matters it debates, sometimes finds it necessary to forbid the introduction of highly controversial subjects, it is not surprising that an association existing solely for practical objects (and upon a basis of mutual forbearance only) should discourage the discussion of a question directly affecting so many different interests as that raised by Mr. Higgs. These different interests may not really be antagonistic to each other, but they can easily be made to appear so, and it would have been bad policy

to proceed with what bade fair to become an acrimonious debate that could serve no useful purpose. One may, however, reasonably regret the fact that the policy of breaking bulk, as distinguished from its legality, cannot be discussed at such a meeting without danger of disruption. With the legal aspect of the matter the P.A.T.A. is not competent to deal. As your correspondent, Mr. Tims, says, that can only be decided by a legal decision, but with the question of policy pharmacists ought to be competent to deal. We are by no means all of one mind with respect to it, and I may say frankly that I am of the number of those who dislike the practice. I do not admit the plea of necessity, and I should like to know what else can be said for it.

Words

are now of so much importance in most law cases affecting pharmacists, that I consider my addiction to dictionaries justified from a purely professional point of view, and those good-natured friends who twit me with it as little better than asses. Almost every second case you report turns to some extent upon a disputed definition—what is the meaning of "wine," of "cure," of "nutrient," and so on. These questions are in a different category from those referring to such words as "dentist," or "pharmacy," or the like, for these latter are technical terms, the meaning of which is strictly a matter of legal interpretation. The tendency is to enlarge continually the area of legal interpretation, to confine words to some technical use, and it is a tendency which ought, wherever possible, to be resisted. Words are not, as such, legal terms, or scientific terms. When they have once been defined as such, and are used as such, it is right and proper that they should be so interpreted, but in other cases it is most unjust, and an unwarrantable infringement of "the liberty of prophesying." We have reason to be glad that Mr. Justice Bray, in the Bendle Meat-Port Nutrient case, declined to interpret "nutrient" in any other than its "ordinary and natural" sense.

Jay Mack

has sent me the system of "Bookkeeping for Retail Traders" which he has worked with much success since 1906, and which he has now published in order that his brothers in pharmacy may benefit by his experience. The system consists of two books—cash-book and private ledger—and is suitable for any kind of retail business with a turnover mainly in cash up to about 10,000*l.* a year. A somewhat novel method of simplifying explanation of this method of bookkeeping has been adopted by printed instructions, detailing how the various entries are to be made, accounts opened, and balances struck. Specimen pages, covering a period of four months, are printed in the private ledger, which also includes valuable information as to stocktaking, with examples of three different methods. The yearly income-tax account is provided for and made clear. Trading account, profit-and-loss account, and capital account are all provided for and simply explained. The cash-book is similarly explained with specimen entries, and ample instructions for the handling and disposal of cash inwards and outwards. The books are made to last four years, and the compiler reckons that the average retail chemist need not spend more than ten minutes in keeping them posted, though this, I fear, is an underestimate. The cost of the two books is —, but this is not an advertisement. Jay Mack has sent me a set of the books consequent on some remarks I made about bookkeeping. I wish all chemists were as learned in the art of sales and *£ s. d.* as Jay Mack. He is a bit flighty, I confess, but are these not the days of aviation?

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Editorial Articles.

What of the Future?

WHEN Mr. Masterman addressed the pharmaceutical deputation last week it was felt that he was speaking to a wider audience than the gentlemen in Wellington House. The area of its influence included medicine: the "British Medical Journal" recognised this by printing, on July 18, the official report of the deputation in full, adding a three-column editorial about the matter. It is scarcely to be expected that the organ of the British Medical Association would admit that panel practitioners have had anything to do with Drug Funds being depleted, or that its journal should welcome any suggestion that the prescribing of these practitioners should be scrutinised by laymen, including dispensing chemists, for, says our contemporary, "the whole responsibility for preventing excessive prescribing rests on the Panel Committee." The "B. M. J." proceeds to discuss in guarded terms the duty of penalising a practitioner for over-prescribing, and mentions the alternative scheme—viz., to treat the 9s. per insured person set aside for Medical Benefit as a single payment which must be made to cover the cost of medical attendance and drugs, the pharmacists having a definite guarantee of at least 1s. 6d. a head without deductions, any adverse balance being met out of the medical share of the 9s. The originators of this plan considered that it would most effectually arouse the Panel Committee to suppress excessive or over-costly prescribing, since any failure would at once automatically affect the receipts of every panel practitioner. The "B. M. J." does not think so, and after extracting some figures from the Lancashire table (C. & D., March 14, p. 92) concludes as follows:

"The moral of all this is, not that the total of the Drug Fund for the whole country is too small—whether that is so or not can only be determined when full statistics for every area are published—but that, if it is not too small, its distribution is in need of adjustment. To accuse any practitioner of excessive prescribing often carries with it a suggestion of unworthy ulterior motives, and, except in flagrant cases, Panel Committees will naturally shrink from penalisation; but there is a danger that the warnings issued by various Panel Committees may even result in a cheap under-prescribing, which would be infinitely worse than any over-prescribing."

This begs the question, but reading between the lines the article is a distinct warning to panel practitioners that their prescribing must now be regarded as open to inspection, and may be the means of reducing the payments to them for medical attendance on insured persons. Mr. Masterman's speech contained passages indicative of the nature of the investigations into Insurance prescriptions. We may illustrate from two districts the sort of thing which is going on. The figures are for 1913 :

District A.

Seventy-five practitioners on the panel.

Prescriptions written for each insured person:

Lowest average number	...	...	...	0.108
Highest ditto	...	...	...	3.19
Lowest average cost of prescription	...	...	...	5½d.
Highest ditto	...	...	...	1s. 6½d.

The doctor with the 0.108 figure had 480 patients, and the one with 3.19 had 152; the next highest (2.18) had ninety-one on his list. The lowest-priced prescriptions were from a doctor with 971 on his list, while the highest-priced is for a list of 832 insured persons. There were lower and higher averages, but they were for very small lists.

District B.

Average number of prescriptions per insured person in the area from forty-eight panel practitioners	...	...	...	3.6
Lowest number	...	...	...	0.6
Highest number	...	...	...	12.0
Average price of all prescriptions	...	...	...	8.8d.
Lowest price of all prescriptions (Doctor A)	...	...	...	4.09d.
Highest price of all prescriptions (Doctor Z)	...	...	...	1s. 2½d.
Average cost of drugs per insured person	...	...	...	2s. 8.4d.
Lowest cost of drugs per insured person (Doctor B)	...	...	...	3½d.
Highest cost of drugs per insured person (Doctor X)	...	...	...	9s. 10½d.

In this district, like A, chemists' accounts have been discounted. The method of calculation differs from A, but the results are similar.

The "British Medical Journal" does not appear to have seen or considered such figures as these. Mr. Masterman has, and he says there must be an inquiry by a small Departmental Committee on which panel practitioners and Insurance dispensing chemists will be represented. The Drug Tariffs will be considered, which means that the one prepared in Bloomsbury Square, the Tariffs followed in different districts of England and Wales, and the Scottish national Tariff (which differs from the English and Welsh) will be compared, and, where possible, adjusted to the Drug Fund basis. We do not think that panel chemists will lose by the investigation, for they are bound to gain something substantial if all doctors are made to play the game as fairly as some of them now do.

Cheaper Alcohol Wanted.

THE urgent need for cheaper industrial alcohol for motor and heating purposes has long been advocated in these columns, our latest reference to the subject being in our issue of June 27 (p. 65). Since then we notice that the Imperial Motor Transport Council, supported by the Marquis of Crewe, Secretary of State for India, and Mr. Lewis Harcourt, Colonial Secretary, have made an appeal through the "Daily Telegraph" for a fund "to investigate fully and independently the possibilities of the general and economic employment of alcohol as a fuel for internal-combustion engines." It is estimated that an annual sum of 6,000l. will be required for at most five years, within which period it is considered that all the technical difficulties will have been solved. The "Daily Telegraph" has obtained the views of many experts on the question, chiefly from the motorist's point of view, and lengthy letters have appeared in that journal, which has resulted in much confusion of thought without getting

to the crux of the matter—i.e., the need for amending the regulations, so that the rebates given on certain spirits for industrial use should be extended to spirits properly denatured for use in motor-vehicles. Indeed, the whole question of rebates requires overhauling. It is many years since these allowances were first introduced, and perhaps at that time there may have been some slight justification for them; but with the modification of Excise restriction in recent years these allowances still remain on the Statute Book. We particularly refer to the differential duty of 5d. per proof gall. paid on foreign spirit for methylation-purposes. It will be remembered that when the corn-duties were imposed by Sir Michael Hicks Beach, as he then was, this surtax was raised from 4d. to 5d. Such is the tender solicitude for the home spirit trade that to this day the additional 1d. per gall. is still paid in spite of the fact that the corn-duties have gone by the board. Whatever reasons may be urged as an excuse for this surtax, none can certainly be offered for the continued payment of this extra penny per gall. which means a gratuitous subsidy to the trade. Mr. Lewis Harcourt in his letter to the "Telegraph" tells us that "alcohol could be produced very cheaply in our tropical African Colonies." May we point out to him that by the operation of the surtax British manufacturers are prevented from receiving any spirit from the British Colonies for their industries, and are in the painful position of being completely at the mercy of the combination of home distillers, who after the passing of the Revenue Act of 1906, which provided for a cheaper methylated spirit, took the opportunity to raise the price considerably, thus defeating the object of the concession, which was to encourage those industries in which the use of spirit is necessary and to enable home chemical-manufacturers to compete with foreign rivals? Reverting to the discussion in the "Daily Telegraph," Mr. Aug. Zimmermann hits the nail on the head when he points out in reference to the production of alcohol from waste wood abundantly existing in this country, that "my efforts and the large capital engaged failed in struggling with the antiquated and all-hindering Spirit Act of 1880. Chemical processes for converting wood into sugar and fermenting subsequently into ethylic alcohol were too much for the red-tapeism of the Inland Revenue, and the chief officers admitted freely that it was painful to them to create these many difficulties almost prohibiting progress." Mr. Zimmermann, however, is not without hope that the struggle against prejudice may be yet turned to useful advantage. He put his proposals forward in a practical manner, emphasising the fact that we have sufficient wood waste in this country to produce 3,000,000 liquid galls. of ethylic alcohol per annum, while molasses and cereals have to be imported and cannot be depended on in case of war. He cites the interesting fact that Japan could never have carried on her war with Russia if it had not been for the supply of Russian spirit which she largely accumulated before the war, and which she was constantly importing from Hamburg and Liverpool. Those who would like further particulars of Mr. Zimmermann's process should read the *C. & D.* of December 7, 1913 (p. 44). Meanwhile, we may add that both petrol and benzol are cheaper than they were (especially the latter) and that outside competition in petrol is increasing. Benzol is much cheaper, in spite of the fact that the present is the principal consuming season for motor-car work. The explanation is probably to be found in the fact that about two years ago people were

impressed with the idea that benzol was about to become a regular motor-fuel and compete on equal terms with petrol. Many benzol contracts were made early in 1913, and perhaps before then, for delivery over several years, no doubt with the object of securing a supply for the demands of the motor-waggon trade, but the difficulties of distribution were not sufficiently appreciated. The motorist has found that whereas he can always get petrol, he cannot always get a tin or two of benzol on the road. Improved organisation is needed in the benzol trade, and until this is brought about the development of consumption for motor-purposes will be blocked. The weakness of the market is also probably due to the fact that many of the contract holders, as their spirit becomes due, find they must resell it in the wholesale market, and have sacrificed it. There used to be an almost unlimited market in Paris and in other large French cities, but Germany appears to have filled up this outlet. No doubt these difficulties will be overcome later as the demand grows, but meanwhile the market is flat.

The Conference at Chester.

PROVINCIAL centres which have not a large pharmaceutical community are shy about inviting the British Pharmaceutical Conference within their borders. The chief, and perhaps the only, objection is the matter of expense, which should not be, for, as now arranged, those who attend the Conference meetings pay for the entertainments provided, and the prices should be fixed so as to cover the expenses. This is what Chester has aimed at this year, the result being an example to the rest of the country, for this week's meeting has been good.

The Presidential Address

was a model of pharmacognoscal erudition. His choice of subject was particularly happy, since it is a theme of which he is acknowledged to be a master. Mr. Farr elected to treat his subject in the form of a review of the work which has been accomplished, during the past fifteen or twenty years, in elucidating the problems that surround the chemistry of plants and plant-products as used in commerce, the arts, and medicine. He alluded, appropriately, to the work of the Wellcome Chemical Research Laboratories and to the progress which has been made during the period under review. Dealing with alkaloids, Mr. Farr summarised the work of Pictet on the synthesis of these bodies in plants in an interesting manner, and in discussing the suggestion of Pictet that alkaloids are by-products in the formation of proteid, cited the observations made by himself and Mr. Robert Wright on the proportion of conine in conium-fruit at different stages of maturity, as showing that the alkaloid may take part in the formation of the proteid found in the ripe fruit, thus indicating that Pictet's view is somewhat narrow. The classification of the alkaloids from a chemical point of view and the work that has been done in regard to the cultivation of medicinal plants with the object of increasing the yield of their active constituents were briefly reviewed. Carbohydrates, fats, and oils, their modes of occurrence in plants and the connection between these substances, passed under survey, Mr. Farr giving an account of the experimental facts that have been brought to light bearing on the theories of sugar-making in green plants. Glucosides were dealt with at some length, the recent work of Bourquelot on this subject being specially mentioned. Mr. Farr's *résumé* of the present state of our knowledge

of these bodies was very complete and instructive. Not the least important section of the address was that dealing with enzymes, Mr. Farr, under this heading, referring to the question of the stabilisation of drugs (i.e., their preservation in such a manner that the enzyme action is prevented), and the probable developments in this connection during the next few years. The President's views on this subject and his suggestion that one might, with advantage, proceed to stabilise liquid extracts and concentrated infusions will meet with general approval. We agree with Mr. Farr that we should "hasten slowly" in this matter for, as he says, the reputation of many of our drugs is based on the use of non-stabilised material. The suggestion, in the closing sentences of the address, that the proceeds of the sale of the Pharmacopœia should be devoted exclusively to defraying the expenses connected with its production, including the necessary experimental work, has been anticipated, for we understand that the General Medical Council has been accustomed to keep the British Pharmacopœia Fund quite distinct from the General Fund, and all profit derived from the Pharmacopœia is devoted exclusively to such work as Mr. Farr suggests.

The communications submitted to the meeting numbered twenty-eight. Of these twenty-five were read at the ordinary sessions, and three in the Practice Section on Tuesday and Wednesday. The papers were quite up to the average—in fact, some of them appealed strongly to the every-day business man, who is apt to consider that Conference papers have no interest for him. Following our well-established practice, we give here the briefest possible abstracts of them, and refer readers for fuller details to the section of this issue beginning on p. 165.

Separation of Strychnine and Brucine.

Mr. Dott contributed a paper on the separation of strychnine and brucine by Gordin's process. He suggested that it is more convenient to perform the operation at the ordinary temperature, if it can be shown that the results are satisfactory and the time taken is not over long. Mr. Dott gave experimental data showing that using 1 c.c. of concentrated nitric acid for each 0.25 gram of brucine, and in the proportion of 1 volume to 10 volumes of acid solution, a period of twenty minutes at ordinary temperature is sufficient to destroy the brucine.

Bacteriological Purity of Pepsin.

Mr. Ernest Quant has examined eleven samples of powdered and scale pepsin from various sources, and all but two gave evidence of the presence of bacilli. In some cases streptococci were indicated. He finds that the presence of free acid has an inhibitive influence on the growth of the organisms, and that pepsin kept over chloroform becomes sterile. The scale preparations are more satisfactory, as regards bacteriological purity, than powdered pepsin.

The Adulteration of Belladonna-leaves

was the subject of an investigation by Messrs. G. Stafford Allen and H. Deane B.Sc., F.I.C., who have found the leaves of *Phytolacca decandra*, *Scopolia carniolica*, and *Ailanthus glandulosa* to the extent of from 20 to about 80 per cent. in commercial belladonna-leaves from Continental sources. They summarise the literature on the subject, and give an account of the macroscopical and microscopical features of these substitutes, comparing these with the distinguishing features of the genuine drug. The admixture of the leaves of *Ailanthus glandulosa* with belladonna

leaves is of particular interest, as this substitute does not appear to have received the same attention in this country that it has attracted on the Continent, and the paper is of special value in that their histological characteristics are now placed on record.

Liq. Strychninae and Alkalies.

Messrs. H. Finnmere and E. Williamson have studied the limits within which liq. strychninae can be dispensed with alkalies without deposition of strychnine. The paper is based on the work of Roe, reported in *THE CHEMIST AND DRUGGIST*, 1904, and in "The Art of Dispensing." The authors record a series of experiments, which are brought together in tabular form. The results show that Roe's figures are too high, but it is explained that variation in the amount of alkali and in the temperature might account for the lack of agreement.

Drug-absorption

is one of the subjects that advanced pharmacists think should be reckoned with before coming to conclusions regarding the factors which determine the physiological activity of the drugs. In this connection Mr. H. Finnmere gave the Conference the results of his work on the rate of dialysis of alkaloids in aqueous solution and in the form of galenicals. He found that strychnine in aqueous solution diffuses more rapidly than in the form of liquid extract of nux vomica, and considers that this may have some bearing on the therapeutic effect of the two, as it would appear probable that the strychnine would be absorbed at different points in the alimentary canal.

The Analytical Characters of Benzoin

were efficiently dealt with in a communication by Messrs. T. Tusting Cocking and J. D. Kettle, B.Sc., F.I.C. The authors find that the percentage of alcohol-soluble matter is not readily determined directly, owing to the volatility of the balsamic constituents, and they find that the easiest way is to obtain it by difference, after exhausting the drug with alcohol, the moisture having previously been determined. The determination of the aromatic acids by the method suggested by Hill and Cocking is found to be unsuitable in the case of benzoin, and a modification is suggested. The cinnamic acid is determined by the bromination method of Dr. A. W. K. De Jong. The authors cited experiments, proving the validity of their methods and the purity of the extracted acids. A valuable table, showing the figures found for a number of commercial samples of benzoin, accompanied the paper.

Mineral Constituents of Drugs.

Dr. Judd Lewis communicated particulars of a research on the mineral constituents of tinctures and the ash of certain drugs, which he has carried out for the Research Committee of the British Homœopathic Association. He employed both chemical and spectroscopic methods of analysis. The special methods and apparatus employed in the spectroscopic have been explained recently in *THE CHEMIST AND DRUGGIST*. It is found that magnesium, potassium, and calcium are always present, sodium is widely distributed, while lithium, aluminium, and manganese are frequently encountered. Copper is not rare. Among the non-metals, sulphur and phosphorus are nearly always present in the ashes of plants, chlorine occurs frequently, and boron usually. Boron is more common than generally supposed. The tinctures and ashes examined were *Baptisia tinctoria*, belladonna, colchicum-corm, lycopodium, thuja, and sepia.

In Dispensing Practice

difficulties arise periodically which can only be settled by consensus of opinion. Realising this, the Executive of the Conference some time ago decided to devote an afternoon in the Practice Section to abnormal prescriptions, with the view to determining uniform practice in dispensing them. Mr. E. Saville Peck, the President-elect, was entrusted with the task of initiating the discussion, and for this purpose he elicited the opinions of about 200 dispensers on stated questions. The results he submitted in attractive style, supplementing the papers with a suggested code of rules, which was referred to the Executive for consideration.

The Legal Aspects

of the subject were presented by Mr. Wippell Gadd, who gave, in attractive style, the law as to the sale of goods, and cognate laws, which dispensers who act as traders are obliged to respect, no matter what code of rules they may go by when they are in difficulties.

Business Science

was the subject of a communication by Mr. T. O. Barlow to the Section on Wednesday. He defined the subject as a marshalling of facts connected with the carrying-on of business, illustrating his meaning by diagrams, and pleaded for a closer consideration of the subject by pharmacists.

The Stability of Cinnamic Aldehyde

under the conditions which obtain during steam-distillation, as in the preparation of cinnamon-bark oil, formed the subject of an investigation by Mr. H. Adie Phillips in the Pharmaceutical Society's Research Laboratory. It has been suggested that during distillation of the oil it was probable that some of the cinnamic aldehyde was oxidised to cinnamic acid, but the author finds that little or no oxidation takes place.

The Extemporaneous Pharmacy

of fluid extract of male fern was discussed by Mr. F. W. Crossley-Holland, F.C.S., who suggested that this remedy can best be exhibited in the form of a jelly, for which he gave a formula—the advantages claimed for this method of exhibition over emulsions and capsules being elegance, ease in swallowing, and palatability, while the bulk is reasonable in relation to the dose.

Anæsthetic Ether of Commerce

prepared from industrial methylated spirit was examined by Mr. H. Finnmere, who found that, while some samples were of rather inferior quality, in the main they have reached a very fair average of purity. He finds that the presence or absence of acetone and the action of alkaline potassium permanganate afford valuable information with regard to the value of methylated ether for anæsthetic purposes, and suggests an increase in the stringency of the B.P. tests. The paper contains particulars of the application of the known and approved tests. It was discussed at great length by experts on the subject.

Tinctura Iodi Decolorata

has been investigated by Mr. W. R. Pratt, B.Sc., A.I.C. The author told the Conference that the finished tincture is an alcoholic solution of ammonium iodide with excess of ammonia, containing about 0.1 per cent. of iodoform, and in some cases traces of ammonium iodate, hydroxylamine and acetaldehyde. Substantially these results confirm those of Mr. Rutherford Hill, published over twenty years ago.

Assay of Iron.

Messrs. Corfield and Pratt communicated the result of work done in the Chemical Research Laboratory of the Pharmaceutical Society regarding the determination of iron in the presence of phosphoric acid. The authors have not been able to find a gravimetric method that is at all satisfactory. The two volumetric methods which have been found to give concordant results are titration with potassium bichromate, the iron being reduced by stannous chloride, and the iodimetric method adopted in the United States Pharmacopœia. The last-named process tends to give results somewhat high, owing to slight air-oxidation of the hydriodic acid.

Carbon Disulphide in Pharmacy.

Mr. F. H. Alcock suggests uses for carbon disulphide other than those to which it is put officially. He has worked out the results, obtained by shaking various tinctures with carbon disulphide, and finds that a constant is yielded which may be of value. It is useful also as a solvent for fat in liquid extract of *nux vomica*.

Glycerophosphates of Commerce.

Messrs. J. C. Umney and C. T. Bennett have examined commercial glycerophosphates of calcium, magnesium, iron, potassium, and sodium, with a view of noting how far these salts conform with the descriptions in the "British Pharmaceutical Codex." Calcium glycerophosphate is found not to correspond with a definite proportion of water, and for the preparation of compound syrup of glycerophosphates the "soluble" variety, containing citric acid, is preferable. The authors see no objection to the "soluble" salt, so long as the salt contains not less than 15 per cent. of calcium. The same applies to the "soluble" magnesium salt, which should contain not less than 10 per cent. of magnesium. Iron glycerophosphates, the authors state, should contain, approximately 15 per cent. of metallic iron. Potassium glycerophosphates, generally sold in solution, should contain 75 or 50 per cent. of the anhydrous salt. The crystalline form of sodium glycerophosphate contains five molecules of water, and the solution should correspond with the requirements for the potassium solution.

Exsiccated Salts.

Messrs. J. C. Umney and C. T. Bennett called attention to the variability in commercial samples of dried magnesium sulphate, sodium sulphate, and sodium phosphate, for which there exists at present no recognised standards. In regard to magnesium sulphate, a table is given of the percentage composition of the salt according to the contained molecules of water. It was suggested that a reasonable standard for the dried salt would be a product containing not less than 23 or more than 31 per cent. of water. For dried sodium sulphate the standard proposed is that the salt contain not more than 5 per cent. of water. In the case of sodium phosphate a 5-per-cent. limit is also proposed.

A Tincture-press,

when handled by Mr. E. W. Pollard, becomes like one of those tools which seem to do everything. He told the Conference how a press may be employed, with some small mechanical additions, which he described, as a pill-piper and in the preparation of special soaps and suppositories. Our abstract of his paper is illustrated so that the wider circle of chemists may give the ideas practical application.

Colouring Anæsthetics,

such as chloroform and ether (*C. & D.*, July 11, p. 34), was the subject of a short note by Dr.

Inglis Clark. The meeting did not seem to relish the idea; but it was explained that the distinction has to be made on account of unqualified assistants to the operator.

Liq. Opii Sedativus.

Messrs. R. R. Bennett and T. Tusting Cocking showed how to improve the formula for liquor opii sedativus, originally published in "Pharmaceutical Formulas," and subsequently adopted by the "British Pharmaceutical Codex." They state that, following the directions given in the latter work, the whole of the morphine is precipitated in combination with a portion of the calcium. They suggest that the opium should be exhausted by cold maceration in lime-water, instead of by boiling, as chemical changes are avoided, and that the liquor should be slightly acidified with hydrochloric acid or sulphuric acid, after the addition of alcohol and sherry. Battley's liq. opii sedativus was found by the authors to contain 1.7 per cent. of morphine and free sulphuric acid.

The meeting was well attended on Tuesday, but the Wednesday sessions were made up of a mere handful, until the final session, when there was a full muster to select Scarborough for next year's meeting-place, when Mr. Ernest Saville Peck, M.A. (Cantab.), Ph.C., a former Honorary Secretary, in business at Cambridge, will be the President.

How Do We Stand?

In the July issue of Mr. John C. Umney's "Perfumery and Essential Oil Record," which is an attractive and interesting number, the following statement occurs in a preliminary note on the new British Pharmacopœia:

Monographs for the essential oils were proposed by Mr. C. A. Hill, B.Sc., F.I.C., and the Editor of the "Record" in a paper read at an evening meeting of the Pharmaceutical Society on February 8, 1910 (see "P. and E. O. R.," February 1910). These were duly criticised by the trade and others interested in essential oils, such comments being also published in this journal, and in the issue of September 1910 Messrs. Hill and Umney replied to the criticisms. It will be interesting when the new Pharmacopœia is available to see how far the suggestions have been officially adopted.

It is fair to infer from this that the members of the Committee of Reference in Pharmacy are in a somewhat invidious position as regards the recommendations which they have made to the Pharmacopœia Committee of the General Medical Council.

Wages of Insured Persons during Sickness.

A FEW weeks ago the National Union of Clerks brought an action in the Manchester County Court, on behalf of one of their members, with a view to establishing the right of a clerk to full wages during illness, in addition to any payment he may receive under the National Insurance Act, 1911. Judgment was given in favour of the clerk, on the ground that an employer has no right whatever to make a deduction from his servant's wages in respect of sums received by the servant under the Act. County court judges have previously delivered judgments to the same effect, and we commented upon the point in *THE CHEMIST AND DRUGGIST* a year ago. The opinion (*C. & D.*, 1913, II., 343) that the Act in no way relieves an employer from the obligation to pay wages during the subsistence of the contract of service has now received official confirmation so far as domestic servants are concerned, and it is obvious that other classes of employment would be governed by the same principle. The Insurance Commissioners have stated, in reply to an inquiry made by the Employers' (of Domestic Servants) Union, that "there is nothing in the National Insurance Acts which relieves the employer from any legal liability to pay wages during sickness in accordance with any established custom." There can be little doubt that, in the absence of an agreement to the contrary, there is "an established custom" to pay wages during sickness in all cases so long as the contract of service lasts, and an employer can only divest himself of his liability by special contract or by discharging the servant, whether domestic or business.

Summer Supplements

Notes on Circulars & Price Lists inserted in this Issue

ON Monday morning, at half-past six, King George V. stood on the bridge of the *Victoria and Albert*, when she commenced to steam down the Solent, leading Britain's battleships to sea. They say that there has never been such a spectacle. The battleships, cruisers and other craft of the British Navy that followed would, in single line, have stretched out to an extent of fifty miles. Overhead came a fleet of airships and flying machines—the new power treading on the heels of, not the old, but that which at the present is the zenith of protective perfection.

Reading of this remarkable demonstration of power and proficiency in the evening papers on Monday, the present writer remembered standing in Cheapside, London, when King George was still heir-apparent, and came down King Street in a State landau, his wife by his side. She was all smiles, bowing to the loyal populace; he sober and solemn—a trifle flushed. They had recently completed their world tour, and he had just delivered in the Guildhall the speech in which he made three words memorable—"Wake up, England!"

In this week of great political stress, and of magnificent naval demonstration, these words are appropriately recalled. We are essentially "a nation of shopkeepers," manufacturers, and merchants, whose goods are taken to the earth's confines, and since the memorable three words were uttered we have recognised better what our business is, our responsibilities, our potentialities, and—may we add?—our weaknesses. George the Fifth on the bridge of the *Royal Yacht* leading the fleet is the top note of British business.

Having said this, it is not an anti-climax to come down to the British drug business, because in that matter *THE CHEMIST AND DRUGGIST* has been all the time saying "Wake up, England!" The very first number of it was sent to every part of the British Empire then in communication with the Old Country, and that was at a time (1859) when leaders and politicians had not made up their minds as to whether the Colonies were an asset or places for good Colonial "jobs" and spending British money. The idea that the Colonies are buyers had not then penetrated the minds of the general. The founders of *THE CHEMIST AND DRUGGIST* were not amongst the latter. The very first number that they sent forth to the world contained an INSET—their own, about their business, a compendious price-list which in bulk overshadowed the octavo pages of *THE CHEMIST AND DRUGGIST* itself.

So began a distinction in advertising to the drug and allied trades which is continued, much increased numerically, in *THE CHEMIST AND DRUGGIST* of to-day. The insets have changed remarkably. Year by year they have reflected the spirit of "Wake up, England!" The houses which prepare them seem to be conscious that their purpose is Imperial. We have before us a printers' proof of the cover design of this Summer Issue. In it we recognise that the artist has caught the spirit of the time, not only in heraldry, but in artistry, for most of the insets which are placed in this issue are conspicuously characterised by artistic execution.

In submitting them to our readers at home and abroad, we need scarcely remind them that they (the readers) are appealed to as the persons most interested in the goods to which the insets refer. The goods are for the public; and our readers are those who can handle them with profit. We commend the Insets to their careful attention, and append notes about each of them, each paragraph terminating with a reference to the manner in which the inset is placed.

Allen & Hanburys, Ltd.,

Bethnal Green, London, E., have an attractive inset on the front cover of which is a coloured representation of how the company effect delivery by motor in town and country. The motor-car is an effective advertisement in itself, and is one of a fleet of cars which link up the company's factories and the warehouses with customers. "Allenburys' Diet" is thus constantly before the public eye, and we doubt not that retailers reap the benefit of this publicity. The interior of the inset is devoted to packed goods, beautiful reproductions of which are given in half-tone engravings. First come effervescent preparations comprising mag. cit., Carlsbad salt, various salines, seidlitz powders, and lemonade crystals. Then follow a series of packed goods, such as camphorated oil, capsules, compound liquorice-powder, eucalyptus oil, santal perles, syrup of figs, and Blaud's pills. Another page is devoted to lozenges of various kinds, while there are two pages of toilet-preparations, these including egg julep, shampoo-powders, dusting-powder, water-softener, tooth-pastes, and the like. Each preparation is illustrated, described, and priced. Many of the articles show a remarkably wide choice, and as labels are specially reserved to chemists there is every inducement to consider the offer. The company print a much larger illustrated price-list, which they will forward to buyers on application, as the inset is a selection only. (Inserted loose.)

Baiss Bros. & Stevenson, Ltd.,

174, 175, and 176 Grange Road, Bermondsey, London, S.E., insert an illustrated two-page circular devoted to home and export trade. Graphic representations of the interior of their factory are given, these including the steam-laboratory, packing-floors (home and export trade being entirely distinct), surgical-instrument department, and export-despatch department. As contractors to H.M. Government, the India Office, and the Crown Agents for the Colonies, the company is well known. (Pp. 32-33.)

Brown & Rowley,

18A Watling Street, London, E.C., in their inset give particulars of the "Simplicitas" loose-leaf photograph-album, which is fitted with a special contrivance of twin straps and clasps whereby the leaves are secured or released in a moment. The size is 10½ in. by 12½ in., the binding being in brown art canvas and handsomely lettered in gold or colour. The "expansion" principle enables the album to take up to seventy leaves. The profit is good, and trade terms are given to chemists. (Pp. 32-33.)

Browning, William & Co.,

4 Lambeth Palace Road, London, S.E., as proprietors of the "Semprolin" preparations, intimate in an effectively-produced two-page inset that the business has been entirely reorganised, and that their emulsions, etc., are obtainable either through the wholesale houses or direct from them. There are no fewer than eleven combinations of "Semprolin," which is a combination of pure petroleum in standardised form, and a list of medications is given on the inset. It is notable that medical practitioners have taken considerable interest in the evolution of these preparations. The firm also supply the "Semprolin" brand of petroleum

for intestinal treatment, and have placed all their products on the P.A.T.A. list. (Pp. 160-161.)

Brunner, Mond & Co., Ltd.,

Northwich, Cheshire, proprietors of the "Crescent" brand soda, again put forward their reasons in cogent form as to the advantages of their mineral-water bicarbonate over chalk, whiting, limestone, marble, etc., in the production of carbonic-acid gas for the manufacture of aerated water. They give full instructions as to how it is used for that purpose, and they observe that not only can the user with the same generator make three times the amount of carbonic-acid gas per charge, but the same quantity of sulphuric acid will yield twice the amount of carbonic-acid gas. In addition, the user can, if desired, make his own Glauber's salt, which might with advantage be sent to the firms who supply the sulphuric acid. (Pp. 160-161.)

W. J. Bush & Co., Ltd.,

Ash Grove, Hackney, London, N.E., place with us a two-page inset, the feature of which is the now familiar drop-curtain executed in gold, upon which are named the numerous honours awarded to them for the excellence of their essences for summer beverages. The inset also contains a full list of the company's leading essential oils, with a reduced facsimile of a Winchester quart of "Ol. santal, flav. ang." in the centre. (Pp. 32-33.)

Butler & Tanner,

The Selwood Printing-works, Frome, in a two-page inset ask our readers to write to them for samples and estimates of any printing such as they may be thinking of getting for business purposes. The firm put their reasons for so doing briefly but forcibly; they believe, and rightly so, that judicious advertising will do as much to help the printing business as any other. The inset may be regarded as a specimen of the work done by the firm, whose speciality is the printing of catalogues and books, but they undertake most things in the printing line, and readers are invited to use the postcard on the inset for direct inquiry. (Pp. 160-161.)

Clayton & Jowett, Ltd.,

essence-distillers, Liverpool, present a two-page inset, the front of which depicts a bunch of lemons of natural size and colour, which in these hot days is quite refreshing to the eye, and thus accomplishes a business purpose. As proprietors of the "Gold Seal" brand of lemon oil, the company claim that their "M.P." (Messina Perfected) soluble essence of lemon has attained high reputation both at home and abroad for its true lemon character. Colonial and foreign manufacturers (to whom alone this inset is distributed) are invited to apply for the Clayton & Jowett catalogue.

John Dickenson & Co., Ltd.,

Old Bailey, London, the well-known papermakers, advertise and print their inset on "Cordelia" paper, which has a distinctiveness quite its own. It costs no more than other kinds, and is considerably cheaper than many imported grades. It is extremely tough and flexible, and is stocked in white and many colours, with a dainty flaxen finish. (Pp. 64-65.)

Eucryl, Ltd.,

61-63 Lant Street, Southwark, London, S.E., again emphasise in their inset the fact that the popular Eucryl tooth-powder carries a profit of 100 per cent. to the retailer. The company also give particulars of their special bonus offer which makes the retail profit still greater. There is already an enormous demand for this dentifrice, and a careful study of the offer is worth while. (Pp. 64-65.)

Freeman's Chlorodyne, Ltd.,

70 Kennington Park Road, London, S.E., proprietors of the "Elephant" brand chlorodyne, give a few forcible reasons as to why Colonial retailers should handle their preparation, which has now been on the market since 1844, when Richard Freeman introduced it. The demand for it at home and abroad is well maintained. (Colonial and foreign copies only.)

Wm. Gardner & Sons (Gloucester), Ltd.,

the well-known engineers and designers and manufacturers of sifting and mixing machinery for use in chemical and pharmaceutical manufactures, insert a circular in which a selection of the apparatus is illustrated, described, and priced. The examples sufficiently indicate the wide range of utility for these machines, and the extent of the service that this house can afford. They invite our readers who require more information to send for Catalogue 25. (Pp. 160-161.)

Hannah's Remedies,

Amersfoort, Transvaal, South Africa, in an inset of four pages, introduces his preparations to this country for the first occasion, they already being well known in the Peninsula. There are over thirty of these remedies, two of which, "Astuosa" and "Ositas," are illustrated, the latter being an external preparation for chest, lung, and throat complaints. Mr. Hannah prints a number of testimonials in regard to the efficacy of the Remedies. (Pp. 32-33.)

Heine & Co.

essential-oil manufacturers and distillers, Leipzig and Gröba, place in this issue an exceedingly interesting and instructive account of the history, growth, and development of the house, which will well repay perusal. Glancing through the inset, with its numerous well-executed half-tone illustrations, it is possible to form an adequate idea of how the present organisation has been built up. The firm of Heine & Co. dates from 1859, the founder having been Dr. Karl Erdman Heine, while the present management is in the hands of Mr. Hans Steche; full-page portraits of both these gentlemen are given. Over thirty illustrations show the various departments in the Leipzig factories and the more recent extensive works at Gröba-on-Elbe. The Indian sandalwood trade (an important section of the business) and the manufacture of synthetic perfumery occupy considerable space. The name of Heine has been prominently identified with the evolution of this modern industry. The monograph concludes with a full description of the new factories at Gröba-on-Elbe, and we may add that the firm have established branches in Berlin, New York, Paris, and Calcutta. The firm's London agent is Mr. Chas. Westphal, 125 Upper Thames Street, E.C. (Inserted loose.)

C. J. Hewlett & Son, Ltd.,

Charlotte Street, London, E.C., in a four-page inset, make a feature of packed goods for chemists, a number of them being reproduced in colour facsimile. The inset is condensed and abridged from Hewlett's packed-drug list, but a representative display is made, almost forty items being enumerated, described, and priced. We have compared these reproductions with the originals, and are struck with their versimilitude. This is commented upon elsewhere in this issue, and here we need only add that buyers may with confidence order from the inset just as if they had travellers' samples before them, and they should note the exceptional terms upon which these packed goods are supplied. (Colonial and foreign copies only.)

McKesson & Robbins,

manufacturing chemists, New York, U.S.A., insert a price-list of their "McK. & R." capsuled pills which are prepared expressly for the use of physicians and surgeons and to be dispensed in prescriptions. They make a point in their four-page inset that the pills are prepared with the greatest care, so that they are absolutely reliable in therapeutic effect. Their ovoid shape and the continuous coating ensure their being acceptable to the patient, and medical men in many parts of the world have proved their medicinal virtues. A page is devoted to changes and additions to the list, and another to important reductions which have been made in list-prices. The fourth page is devoted to "Calox," the well-known oxygen tooth-powder, the British depôt of which is Messrs. G. B. Kent & Sons, Ltd., 75 Farringdon Road, London, E.C. (Pp. 160-161.)

Newball & Mason,

Nottingham, in their four-page inset, give a frontispiece of a golfer in the act of raising to his lips a glass of home-brewed made with Mason's extract of herbs. The expression on the golfer's face testifies as to what he thinks of this "delightful beer." Our friend of the farming type who exclaims, "Good! it's Mason's," finds a place on the back cover of the inset. Inside the inset the firm give particulars of all their extracts, which are supplied in bottles at 6d., 1s., and 2s., and of health-salt they are large makers, being able to furnish about thirty different designs and giving exclusive use of such if necessary. (Pp. 64-65.)

A. & F. Pears, Ltd.,

71, 73, 75 New Oxford Street, London, W., in their inset, which has a beautifully coloured frontispiece of heraldic design, emphasise the fact that they are soapmakers by appointment to their Majesties the King and Queen and other royalties. The firm have received twenty-two highest awards, including many gold medals and Grands Prix. Particulars of their wholesale and retail prices are given, it being notified that a discount of 20 per cent. is given on all orders of not less than 5l. if accompanied by remittance. (Pp. 32-33.)

Potter & Clarke, Ltd.,

London and Manchester, draw attention in their two-page inset to Potter's Asthma Cure (cigarettes and smoking-mixture), the delivery of which to customers, as depicted in the inset, is taking place by their own motor-vans. Fruit-crystals, for making lemonade, lemon-squash, lime-juice and soda, raspberry, black currant, etc., are other specialties advertised in the inset. These are put up in special cartons, with customer's own name on gross lots, priced at 2s. 6d. to 2s. 9d. per doz., according to quantity. It will be noted that the company are headquarters for new season's chamomiles, lavender-flowers, poppy-heads, and honey under the familiar "Lion" trade-mark. (Pp. 32-33.)

Potter & Moore's

fragrant Old English lavender-water, the sole proprietors of which are W. J. Bush & Co., Ltd., is the subject of an inset which is strikingly artistic, the front page bearing a colour facsimile of an old painting of an Old English garden scene about the eighteenth-century period—this lavender-water was introduced in the middle of the century, and is as good and refreshing to-day as it was then, for, like the picture, it is "The scent of an Old English garden." The other three of the inset are devoted to half-tone illustrations of the various sizes and shapes of the perfume, and to lavender bath-salts and sachets, with wholesale and retail prices. (Pp. 32-33.)

Sangers, Ltd.,

Euston and Hampstead Roads, London, N.W., present to *C. & D.* readers an appropriate memento of their centenary in a twelve-page inset depicting the history, rise, and progress of the House, founded by a retail chemist in 1814. How the business has grown step by step is succinctly told, numerous half-tone illustrations embellishing the text. (Inserted loose.)

Stevenson & Howell, Ltd.,

manufacturers of soluble essences, Standard Works, 95A Southwark Street, London, S.E., again insert one of their artistic insets, typifying the source of the flavour and fragrance of their soluble essences and allied products. A prominent feature is a finely produced spray of orange-flowers and an overflowing bowl of the luscious fruit in their natural colours. A glass of sparkling "Orana" (orange-squash), prepared entirely from the selected fruit, completes the picture. The "Red Ball" brand essence for cloudy stone ginger-beer is referred to on the other side of the inset, and is also of special excellence. (Pp. 64-65.)

Synflour Scientific Laboratories,

Monticello, New York, U.S.A., make their bow to our readers in the form of an attractive four-page circular devoted to Synflour perfume

and flavouring materials, flower oils, toilet preparations, soaps, perfumes, etc. The inset is replete with information as to what the company offer, and their products have an international reputation. By means of the Synflour Manufacturing Service clients are able to obtain practical suggestions and assistance in selecting the materials most suitable for their special wants. This is a novel and useful innovation, which perfume and essence compounders at home and abroad should take advantage of; initial inquiries cost them nothing, and, judging from the information we have seen, may profit them much. (Pp. 32-33.)

"C. & D." Winter Issue, 1915.

Finally, we may say that Insets are accepted for distribution in *THE CHEMIST AND DRUGGIST* on two occasions only in each year. This is the second occasion for 1914. Next year, on January 30, 1915, we propose to publish a Winter Issue of *THE CHEMIST AND DRUGGIST*, when Insets will again be a business feature, and any business house connected with the trade who would like information as to that opportunity should write to The Publisher, 42 Cannon Street, London, E.C., for printed particulars in regard to the conditions pertaining to this form of publicity and remunerative advertisement.

SUMMER OUTINGS.

Eastbourne Pharmacists' Association.

THE Association's outing on July 8 was the most successful ever held. It was a circular drive by motor *char-à-banc* (viâ Battle) to Rye, where two hours were spent inspecting the ancient church and Town Hall. Tea was served at the George Hotel. The party returned through Winchelsea, and home was reached about 10 p.m.

At Weymouth.

THE employés of Messrs. Parke, Davis & Co. held their fifth annual outing on July 11 at Weymouth. A special corridor train (L. & S. W. Railway) took the party to the seaside, and, the weather being very fine, a most enjoyable day was spent. About 300 sat down to tea in the Sydney Hall, when Mr. G. Cobb (Chairman of the Outing Committee) read a telegram from Mr. R. C. Brown (works-manager) regretting that he could not be present, and wishing the employés a successful day. A hearty vote of thanks was given to the firm for their generosity in connection with the outing. Mr. T. Mitchell (Hon. Secretary of the Outing Committee) stated that the number from the laboratory was a record, and the numbers were increasing annually. Mr. Tighe proposed a vote of thanks to the Outing Committee and officers for their excellent arrangements.

By the Solent.

ON July 11 the employés of Messrs. Paine & Co., Ltd., St. Neots, numbering over one hundred and twenty, had their annual outing to Portsmouth, and, the weather being absolutely ideal, a most enjoyable time was spent. At luncheon, provided by the company, the health of the directors and the continued prosperity of the business was proposed by Mr. A. J. Middleton, secretary of the company. Mr. Malcolm McNish, in replying, referred to the happy relations which have always existed between the firm and their employés since the business was founded by his great-grandfather nearly ninety years ago, and trusted that these pleasant relations would always continue. He was glad to tell them that the year just terminated had been in every respect a "record" one. After luncheon the company visited the various places of interest and the Isle of Wight. The return journey commenced at 11 p.m., and St. Neots was reached at 4 o'clock on Sunday morning.

At Brighton.

THE annual excursion of the employés of Messrs. C. R. Harker, Staggs & Morgan, Ltd., was held at Brighton on July 18. On their arrival the party dispersed for steamer-trips, sailing, swimming, motor-rides, etc., to meet again at one o'clock at Chatfield's Hotel, where an excellent dinner was partaken of. Mr. H. W. Harrie, the company's South and West of England representative, presided, supported by Mr. Tom White, jun., the secretary of the company, and Mr. R. H. Cooke, the company's warehouse-manager. After the loyal toasts, Mr. Harrie proposed "The Health and Continued Prosperity of the Old Firm," and referred to the pleasure it gave him to see so many old servants

present, and also made brief mention of the approaching centenary of the company. Mr. E. Scurr (the Excursion Secretary) proposed "Our Representatives" and "Our Secretary," to which Mr. Tom White, jun., responded. The party met at 5 o'clock for tea, and reached London again about 10 o'clock, after a most enjoyable day, in perfect weather.

At Haddington and North Berwick.

The members of the Edinburgh District Chemists' Trade Association had a motor-run to North Berwick on Wednesday, July 15, going by Dalkeith, Tranent, and Haddington, where they were met by Mr. W. P. Wilson, who got Dr. Wallace James to show them the Abbey, upon which he is an authority. Then Mr. Wilson took the party to the Nungate Brig, thence to the spot where "The Lamp of Lothian" stood. Resuming the *char-à-banc* journey, North Berwick was reached after an hour's run, the blackened ruins of Whitekirk Church (which was fired by the suffragists some time ago) being passed *en route*. High tea was served at the Dalrymple Arms Hotel, after which the President (Mr. A. Duncan) proposed "The Prosperity of North Berwick," which was replied to in a very pleasing and happy mood by Provost MacIntyre. "The Association" was proposed by Mr. D. W. Nicolson (Raines, Clark & Co., Ltd.), and responded to by Mr. W. S. Glass. Leaving North Berwick at 8.45 p.m., the return journey was made by Dirleton and the coast road, Auld Reekie being reached about 10 o'clock.

At Windsor.

THE annual outing of the Victoria Park, Farringdon Road, and Apsley employes of Messrs. G. B. Kent & Sons, Ltd., brush manufacturers, took place on Saturday, July 18, to Windsor. The chief event of the day was a cricket-match between teams representing the Victoria Park employes and those at Farringdon Road and Apsley. Those taking part in this travelled from London by train and from Apsley by motor *char-à-banc* and motor-bus, arriving at Windsor about 11 a.m., when play commenced. Some preferred to travel by river, and a party of 200 left Hampton Court by s.s. *Royalty*, arriving at Windsor in time for luncheon at 2 p.m. The whole company numbered about 450, of whom 230 sat down to an excellent luncheon at the White Hart Hotel. Mr. A. Barton Kent, who was to have presided, welcomed all, and apologised for having to leave, and the chair was then taken by Mr. Ernest Kent. Mr. Francis, of the representative staff, in proposing the toast of "The Limited Company," referred to the successful year they had experienced, which he placed to the credit of the directors. Mr. C. F. Barrett returned thanks, and acknowledged the good work done in all the departments. The Chairman, giving the toast of "The Employes," said "the old firm" is going strong, and this was largely achieved by the devotion of the employes. The directors recognised that their own interests and those of the employes are all bound up together, and they appreciated the good feeling that exists between them. Mr. G. Wright replied for Farringdon Road, Mr. J. Humphries for Victoria Park, and Mr. J. G. Craft for the Apsley employes. Other toasts were "The Visitors" and "The Stewards." After luncheon cricket was resumed, and the match resulted in a win for the Farringdon Road and Apsley team, the scores being: Farringdon Road and Apsley, 97; Victoria Park, 92. Messrs. F. O. Tindley and E. Sutton did well with the bat, while Messrs. S. W. Wells and S. W. Trick performed best with the ball. Tea was served between five and six, the river party leaving soon after, and those travelling by train and by motor left about 7 o'clock. Favoured by splendid weather, the outing was most successful, and was enjoyed by all.

Vibrona at Play.

THE staff of the Vibrona Laboratories were invited by the directors of Messrs. Fletcher, Fletcher & Co., Ltd., to an excursion to Broxbourne on July 16. The main party left St. Pancras at 9.15 a.m., and were joined at the Crown Hotel, Broxbourne, by another contingent from intermediate stations. An excellent programme of sports, organised by Captain Usher and Mr. Cecil, occupied the morning. Mr. Bascombe acting as handicapper and referee. Dinner was served at 1 o'clock. Mr. F. W. Fletcher (the governing director of the company) presiding, supported by Mr. Bascombe and Captain Usher. After incense had been offered at the shrine of "My Lady Nicotine," Mr. Fletcher expressed, on behalf of his co-directors and himself, the pleasure it afforded them to meet their staff at these social gatherings, and referred to the cordial relations which had existed between them for so many years. Only the day before he was looking through the register of dates on

which the older members of the staff entered the service of the firm, and he found that nine of these represented an aggregate of close on 200 years, or an average of over twenty-one years each. That, he thought, was a record which spoke for itself. Those of them who belonged to the fair sex seldom left, unless it was to get married. Such an event was shortly to happen, for the forewoman of their printing department, Miss Helen Clark, had made up her mind to disregard Mr. Punch's advice and make the plunge. Mr. Fletcher then presented Miss Clark with a case of table cutlery: "From the Directors of Messrs. Fletcher, Fletcher & Co., Ltd., in recognition of twelve years' faithful service." Mr. G. E. Cecil expressed on behalf of the staff their appreciation of the personal kindness and consideration shown to them on all occasions by Mr. Fletcher. The only complaint they had to make was that Mr. Fletcher would not let them do enough for him. He also wished to add a special word of thanks to Captain Usher for having organised such a splendid programme of sports, and to Mr. Bascombe for having acted as referee. The only toast was that of "The Directors," proposed by Mr. Charles Bryant and acknowledged by Mr. Bascombe and Captain Usher. The prizes won by the successful competitors were then distributed, and the afternoon was spent in various amusements. The whole party reassembled for tea at 5 o'clock, shortly after which a most successful and enjoyable outing came to an end.

A Botanical Excursion.

A BOTANICAL EXCURSION of the Edinburgh Chemists' Assistants' and Apprentices' Association took place on July 8, when about thirty members and friends travelled by steamer to Burntisland, where they were met by the local pharmacists and conveyed by motor *char-à-banc* to Pettycur, near Kinghorn, whence they walked back along the shore of the Forth. The ground covered is very rich botanically, and under the leadership of Mr. Thomas Wilson, Ph.C., Burntisland, accompanied by Messrs. Gilmour (Burntisland) and Maclean (Kinghorn), some excellent field-work was done. Returning to Burntisland, the party greatly enjoyed a sumptuous tea provided by the Burntisland pharmacists. On behalf of the visitors, Mr.



J. Rutherford Hill moved a vote of thanks to Messrs. Bisset, Gilmour, and Wilson, to which Mr. Bisset responded. On the motion of Mr. J. A. Forret, a vote was also accorded to Mrs. Bisset, Mrs. Gilmour, Mrs. Wilson, and Miss Duncan, who dispensed the tea. The weather was delightfully fine, and a pleasant evening sail back to Granton concluded a most successful day's outing.—The summer meeting of the Association was held in the Pharmaceutical Society's House, Edinburgh, on July 10. Mr. W. Lockerbie Thomson, B.Sc., in the chair. Mr. Henry Stout, Ph.C., gave a most interesting practical demonstration on the local flora.

CHINESE OILS.—In his annual report on the trade of Wuchow and Nanning, the British Consul reports that the provincial authorities are calling on the people to extend the cultivation of cassia, anise, wood, and tea oils. Several such Chinese estates have been opened during the year, and appear to be prospering. Among the exports from Wuchow in 1913 were 207 cwt. of anise and cassia oils, against 972 cwt. in 1912; 1,772 cwt. star-anise, against 88 cwt. in 1912. From Nanning the exports included 4,975 cwt. star-anise oil, against 3,152 cwt. in 1912; also 13,609 cwt. of star-anise, against 15,127 cwt. in 1912.

Notes on Novelties

VIBRONA AND BRONAMALT.

Messrs. Fletcher, Fletcher & Co., Ltd., Vibrona House, Holloway, N., inform us that they have restored Vibrona to the P.A.T.A. list, and they took the opportunity to place upon it also Bronamalt, its companion preparation.

THE BRONNLEY BUSINESS.

Messrs. H. Bronnley & Co., Ltd., have original ideas in regard to the production of toilet-soaps. They illustrate two of their bath-soaps, tablets and "Bathodomes," both being produced in numerous odours, and the company offer a special bonus to retailers for quantities. The company's Ess Viotto is going strong, and, like their perfumes, is profitable to handle.

FRUIT CRYSTALS.

Messrs. Potter & Clarke, Ltd., have carried fruit crystals in new directions, as they now make these in other flavours than lemon. We have had an opportunity of examining black-currant, raspberry, lemonade, lemon-squash, and lime-juice and soda crystals. A notable feature of these is that the crystals are in a granular form, which enables them to dissolve readily, even in cold water. In the case, *e.g.*, of lemonade and black-currant crystals, the solution produced is perfectly clear, and only requires the addition of the minimum of sugar; the latter characteristic being specially worthy of note. All the crystals are put up in bottles, the contents of each making 2 gals. of the beverage, and in the case of black-currant, the bottleful is also suitable to make half a gallon of black-currant wine. Messrs. Potter & Clarke have a wide variety of cartons to select from, and also aid sales by printing the retailer's name and address on the cartons, when required.

PROVIDOL SOAP.

The manufacturers of this new soap supply chemists with a large showcard on which is a pair of the gloves (ladies' or gentlemen's) that they present to those who

FREE! FREE!
ABSOLUTELY.

DENT'S GLOVES
LADIES & GENTS SUED & KID

To the Purchasers of the New
Beauty and Skin Tonic Soap

'PROVIDOL'
THE MOST WONDERFUL DISCOVERY
OF MEDICAL SCIENCE.

**Six Wrappers Entitle
you to the Gloves.**

* Refills required when packing wrappers.
* Dent, Gaiden, Suite of K. & A. Name and Address at
* Chemist from whom you bought the soap.

PRINTED BY W. BAKER, LONDON. LONDON LANCET 1914 E.C.

Pass this on to your friends.
It is a good thing.



THESE ARE THE GLOVES.

buy this soap. Chemists' assistants are also invited to fill up a line in the Providol company's advertisement, the first prize being two guineas. The sole British agent is Mr. W. Bonser Hayward, 17 Lawrence Lane, London, E.C.

SOLYPTOL SOAP.

Messrs. F. H. Faulding & Co., 54 Great Tower Street, London, E.C., the well-known Australian house, describe the properties of the Solyptol soap, which has steadily increased in favour since its introduction, and now, in addition to the toilet-soap, they produce a shaving-soap, containing the antiseptic Solyptol, which retails at 9d. per stick.

TANGLEFOOT FLY-PAPER.

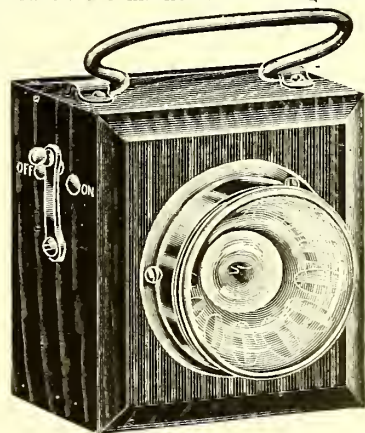
Alabastine Co. (British), Lim., Church Street, South Lambeth, London, S.W., have introduced a new size of "Tanglefoot," which has a superficial area of 226 sq. in., sufficient, we should think, to catch a thousand flies. Sir James Crickton Browne's remarks about the efficacy of this fly-paper are quoted in the company's advertisement.

"TABLOID" TRIANGULAR BANDAGE.

Messrs. Burroughs Wellcome & Co., Snow Hill Building, London, E.C., have placed on the market a new triangular bandage in neat compressed packets containing two, in an outer of stout glazed paper, which enables them to be carried in the pocket without inconvenience. The methods of applying the bandages are printed upon the fabric, and the clearness of the pictorial representations is a distinct improvement on the old form of bandage, while the designs are completely in accordance with the latest practice. The bandages are supplied in two forms—compressed and sterilised—the retail price being 9d. per packet of two, and 1d. extra for the sterilised.

ELECTRIC HAND-LAMPS.

Messrs. Ward & Goldstone, Sampson Works, Salford, Manchester, have placed on the market a new magazine electric hand-lamp, known as the "Multifil," which marks an important advance in portable electrical apparatus. It is well known that the standard size pocket-lamp gives a light of four to five hours continuously, but the "Multifil," which is fitted with two pocket-lamp refills, gives from thirty to forty hours' light. Hitherto the objection to utilising two refills in one lamp-case has been that when the lamp was not alight the refills had a tendency to run each other down, but by a patent automatic switching arrangement this is prevented; there is no loss of current. The size of the case, as will be seen from our illustration, is very small, being 3½ in. high by 3 in. wide by 2¼ in. deep. It necessitates only carrying one stock of refills instead of having to hold a stock of hand-lamp refills, as in the past, and the cost of burning is reduced considerably. The lamp is of British make throughout, and it retails, complete with two volex ordinary size pocket-lamp refills and Osram opal back metal-filament bulb, at 5s. 6d. each.

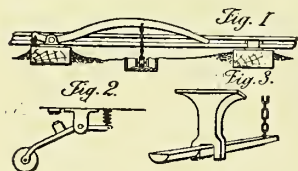


PACKED SPECIALITIES.

We have had an opportunity of examining a number of the packed pharmaceuticals and toilet-specialities which Messrs. C. J. Hewlett & Son, Ltd., Charlotte Street, E.C., are now placing on the market. This house's reputation as originators of elegant galenical preparations is well known, and in producing these new counter specialities they have ensured that that reputation will not suffer so far as elegance and excellence of the products are concerned. Further, the methods of packing are convenient and artistic, labels and cartons being generally of good design and carried out in artistic colourings. In a considerable number of the articles royal purple is the predominating tone, while in others old gold and a dark green are nicely contrasted on labels and cartons. Our colonial and foreign readers will find a reference elsewhere in this issue to an illustrated and selected list which is distributed to them through this number.

PREVENTING RAILWAY ACCIDENTS.

Mr. Walter Duplock, chemist and druggist, formerly of Chester, has recently patented an invention which

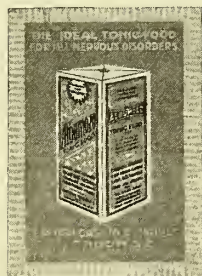


has for its object the improvement of the signalling on railways. The invention consists of a device for intimating to the driver of a train the condition of the signal ahead of him. An arrangement is provided near the rails and actuated

by the signal or from the cabin, by which an alarm is sounded, the steam shut off, or the brakes applied in case an engine runs past a danger-signal. The illustration shows the various forms of the invention. The method outlined in fig. 1 consists in providing an arch bar or guide-rail, one end of which is pivoted to a bracket fixed to the sleeper or other suitable support, and having means attached thereto for operating it, in conjunction with the signal, against the resistance of a suitably disposed spring. When the signal is at danger, this bar is above the level of the rail, in which position it is adapted to engage with a suitable contact situated underneath the engine, which actuates either mechanically or electrically an alarm in the cab. In the modification, as shown in fig. 2, the roller is secured to a suitably shaped bar upon which is situated a contact adapted to complete an electrical circuit. When turned about, the pivot is against the action of a suitable spring. In fig. 3 is shown a further modification, consisting in the provision of a pivoted bar, which is adapted to be turned about its pivot by engagement with the arched guide, the depression of the further end being communicated in any suitable manner to the alarm situated in the cab.

ALBUMOZO TONIC FOOD.

With the idea of advertising their Albumozo Tonic Food, the British Casein Co. (1911), Ltd., Albumozo Works, 24 Great Dover Street, London, S.E., have issued a very effective poster-stamp in four colours, with striped heliotrope border and pink centre. The company have 100,000 of these stamps for distribution, and any chemist who writes can have a supply for distribution.



As an advertising idea poster-stamps have "caught on," especially in Germany and France, and the craze is also growing in this country as a consequence of their being pushed by printing-houses making it one of their specialities. In Germany business-houses stick

them on their letter-headings, invoices, backs of envelopes, or in connection with any special scheme for increasing their trade. Special issues of stamps are also brought out to commemorate national events, or on behalf of hospital funds, etc.; and we have already seen some beautifully-coloured examples by British firms.

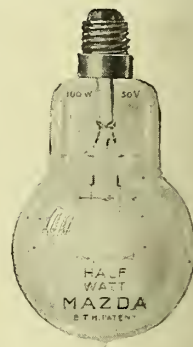
CHEMICALLY PURE SODIUM SALICYLATE.

The Chemische Fabrik von Heyden, Radebeul-Dresden, supply to pharmacists for dispensing purposes a sodium salicylate which is characterised by its ready solubility and entire freedom from creosotines and other undesirable impurities. The salicylate is in brilliant white flaky crystals, a critical examination of which enables us to commend it to dispensing chemists as a salt whose solutions are as unchangeable as those made from the sodium salt of the natural acid, while therapeutically it gives no objectionable secondary effects. The sodium salicylate is supplied by leading wholesale druggists, and the sole agent for Great Britain is Mr. E. W. Blasius, Mincing Lane House, London, E.C.

HALF-WATT LAMPS.

Since the sensational announcement was made in January last of the successful production of metallic-filament lamps giving an efficiency of 2 c.p.

(candle-power) per watt the research, which had already been carried on for over two years, has been crowned with further success, and news comes from the makers of the Mazda lamp that they are placing additional types on the market. These lamps are constructed with a drawn-wire filament, wound spirally and enclosed in a globe filled with nitrogen at a slight pressure, the combined effects of the spiral winding and immersion in an inert gas successfully eliminating rapid destruction of the filament at the high working temperature necessary to obtain the high efficiency.



Whether these lamps could compete with the flame arc-lamp, where large candle-power units are required, has been a matter of some discussion in the electrical world, since, so far as actual efficiency in watts per candle-power is concerned they do not attain to that of the flame arc. It is, however, evident that in the advantage they have of absolute steadiness of illumination and entire freedom from fumes they must hold the field for internal lighting, while the elimination of the trimming necessary with the arc-lamps gives them further advantage and brings them within reasonable comparison of actual burning costs. The new types now obtainable are 200 and 400 c.p. for 50-65 volts, taking 100 and 200 watts; 400 and 600 c.p. for 100-130 volts, taking 200 and 300 watts; and 1,000 c.p. for 200-225 volts, taking 500 watts. These have a similar arrangement of the filament to the earlier lamps; the globe of the 50-65-volt lamp, however, is no larger than that of the ordinary lamp for the same wattage. Perhaps the most interesting development is found in the projector type of lamp. In this the filament is arranged in grid form, either horizontally or vertically in the globe as required, making it suitable for projectors, enlarging lanterns, and photographic purposes. This should become very popular, especially for the latter purpose, giving, as it does, an even and steady burning with a definite amount of illumination every time it is switched on. The quality of the light is good, being of a very white colour and good actinic value with the filament at the high temperature employed. The life is about 800 to 1,000 hours. A reduction in price is now announced, and a large range of fittings for taking the lamps is now on the market. As with the arc-lamps, and, indeed, any high candle-power source of illumination, it is necessary to enclose these lamps in some diffusing globe or eye-rest fitting. Both the ornamental and purely utilitarian fittings are obtainable. The lamps are manufactured and placed on the market by the British Thomson-Houston Co., Ltd., Mazda House, 77 Upper Thames Street, London, E.C., who send us, among other illustrations, one of a group-photograph taken by the light given by this lamp. We confine our illustrations, however, to one lamp only, as those specially interested can get an illustrated catalogue from the company on application.

NEW LIST.

The new catalogue of Messrs. W. Edwards & Son, proprietary-medicine dealers and druggists' sundriesmen, 157 Queen Victoria Street, London, E.C., has been issued this week. It follows on the lines of previous editions, but contains more pages owing to the development of the various sections. Part I., a list of British and foreign proprietary medicines, occupies 146 pages, and, following previous issues, has printed in heavier type those articles the price of which is protected. Part II. is devoted to druggists' sundries, and has been enlarged considerably. Many more illustrations have been inserted, and the section seems to include all the druggists' sundries in general demand. Photographic goods and counter-specialities are also dealt with. Those who have not received a copy of the list should communicate with Messrs. Edwards.

SHOPFITTINGS CATALOGUE.

Messrs. Harris & Sheldon, Ltd., manufacturers of shopfittings, Stafford Street, Birmingham, have just published a handsome eighty-page quarter-size catalogue devoted to joinery work in connection with shop fronts and interior fittings. There are over 150 half-tone illustrations of shops and interiors, the work in which has been executed by the company, and on glancing through the pages we note that the examples include many of the leading stores and firms at home and abroad. The catalogue also includes examples of component parts of the modern shop, from glass facias to stall-plates, several hundred examples of up-to-date fittings and fixtures being given. The company have over thirty years' experience behind them as shopfitters, and have an organisation complete in all details.

NEWBERY'S CATALOGUE.

We have received from Messrs. Francis Newbery & Sons, Ltd., 27-28 Charterhouse Square, London, E.C., an advance copy of their annual catalogue of druggists' sundries, proprietary medicines, foods, perfumery, soluble coated pills, packed goods, etc. This is the thirty-fourth annual catalogue, but there were others of a smaller and less comprehensive nature between 1746 and 1880, when the annual issue commenced. As we have previously observed, Messrs. Newbery are a kind of registrars-general of the proprietary-medicine business, for they make a point in the introduction to the catalogue of giving statistics, and we quote what they say this year:

In thoroughly revising our preceding issue, the difficult art of deletion has been applied with some rigour. The following is a brief summary of the changes effected in the Proprietary-articles Section:

Entries Removed	772
New Entries	608
Quotations Modified	1,203

The prevalent upward tendency of prices has affected some of the figures, but, *per contra*, many of the "quotations modified" are in the nature of reductions—favourable, therefore, to present and prospective purchasers.

Among the supplementary matter in the catalogue we note that the remarks on medicine-duty are supplemented by reference to the medicated-socks case decided last month, and the list of proprietary articles, etc., containing scheduled poisons is also brought up to date. The complete catalogue will, we understand, extend to 900 pages, and will soon be ready for distribution. Those who want to be sure of getting a copy should write to Messrs. Newbery at the above address.

ENDOLYTIC TUBES.

Two or three years ago we reported upon the hermetically-sealed tubes of urine reagents which were introduced then as endolytic tubes, being made under Hume's patent. The tubes are capillary, and the reagent in them about half fills the tube, so that when each end is snipped off and the tube is dipped into a drop of the suspected urine, it is drawn in by capillary attraction, and the reaction begins and is completed in a few seconds with or without heat, according to the nature of the reagent. The manufacture of these tubes has recently been taken over by Messrs. Fletcher, Fletcher & Co., Ltd., Holloway, London, N., who are

the sole proprietors and make and fill them in the Vibrona laboratories. They make four kinds—viz., test for albumin and albumose (salicyl-sulphonic acid), test for glucose (Fehling's solution), test for acetone (sodium nitroprusside and ammonia), and test for diacetic acid (ferric chloride). Each of these is put up in boxes of twenty-five tubes, with full directions in a dainty illustrated booklet. They also supply them in cases containing four boxes (100 tubes), either all one kind or assorted, at 7s. 6d., including a nickel-plated pocket-case for carrying the tubes. We understand that Messrs. Fletcher, Fletcher & Co., Ltd., do not propose to supply the medical profession direct, but are to endeavour to induce doctors to order through their local chemists, to whom a substantial discount will be allowed. Pharmacists who have not seen the tubes should get a sample and try them, when they will see how nice a thing they are to introduce to the notice of their medical friends.

TRADE NOTES.

MESSRS. A. EDMONDS & Co., LTD., Constitution Hill, Birmingham, as specialists in shopfitting, invite correspondence from those who think of modernising their business premises.

AN EFFECTIVE SIGN is a good business asset. The Universal Sign-works, 52 Gray's Inn Road, London, W.C., are up-to-date manufacturers of them, and quote prices in this issue.

THE MENTHOLATUM Co., 329 High Holborn, London, W.C., have placed their universal ointment, "Mentholum," on the P.A.T.A. list and will supply on application particulars to any retailers.

PRISM BINOCULARS are made a leading line by Mr. Adolph Scott, Great Hampton Street, Birmingham, who figures in his advertisement in this issue a splendid pair to retail at 3l. 10s. upwards.

MESSRS. ROBINSON & SONS, LTD., box-makers, Chesterfield, insert in this issue a striking sketch with reference to their pill-boxes, which have a supreme position, as shown in their advertisement.

"GOTAR" TOOTHACHE-TABLETS have just been introduced by Eucryl, Ltd., Lant Street, Borough, S.E., who are the sole selling agents, and they invite correspondence from chemists, as the line is a profitable one.

THE SARGOL Co., Carlton House, Great Queen Street, London, W.C., have some handsome new showcards and booklets, the latter for counter-distribution, which they are ready to supply to retailers on application.

THE NEW "CASTOLS" showcard, which Messrs. Thomas Kerfoot & Co., the manufacturers of this laxative confection, have produced, is depicted in this issue, a group of happy children following a uniformed nurse.

"A FLYING RECORD" is a happy heading to an advertisement of Christy Strong's "Cobweb" fly-papers, which retailers may obtain direct from the headquarters, 115 Chatham Street, Reading, at 5s. per gross, carriage paid.

MESSRS. GARDINER & Co., LTD., Commercial Road, London, E., and elsewhere, who make the uniforms worn by Messrs. John Bell & Croyden's staff, give particulars in our advertisement-pages of the sizes and prices of chemists' jackets and overall clothing that they stock.

ROSE VANISHING CREAM is the title of a new summer line for chemists to retail which is introduced by Messrs. Cuxson, Gerrard & Co., Ltd., Oldbury. It retails at 1s. per jar and costs 5s. 6d. per dozen. The firm invite chemists to apply to them for their new price-list of specialities, sundries, and surgical dressings.

MR. FRANCIS LONGMORE, of Bourke Street, Melbourne, who is now in this country, is prepared to advise manufacturers of pharmaceutical specialities and appliances in regard to their introduction into Australia, and his firm will be glad to undertake agencies. Mr. Longmore will be pleased to meet any inquirers by appointment at the offices of Messrs. H. B. Sleeman & Co., Ltd., 84 Leadenhall Street, London, E.C.

Insurance Act Dispensing.

A Weekly Record of events and decisions concerning Chemists' interests in Medical Benefit administration and practice.

Reports from Local Centres.

With special reference to the supply of medicines and appliances. See also Association Affairs.

ENGLAND.

Barnsley.—The Insurance Committee has this month passed for payment chemists' accounts amounting to 131*l*. In reply to a member, the Chairman said the accounts were rather heavy, and were increasing. There had been some very expensive prescriptions. Some discussion ensued as to looking into this serious state of affairs, and the Clerk explained that the Joint Service Sub-Committee would deal with it. The Clerk was instructed to see that this is done, and is writing to the Secretary of the Pharmaceutical Committee about it.

Bootle.—The Panel and Drug Funds were so heavily drawn upon in respect to the first quarter that the Commissioners have instructed the Insurance Committee that too much was paid. [This, we may note, appears to be a general instruction by the Commissioners at the present time.—EDITOR.] The accountant informed the Committee that if the instructions of the Commissioners were carried out 40 per cent. would have to be retained from next quarter's credits in respect of doctors' and 38 per cent. in respect to chemists' accounts. Both the Medical Benefit and Finance Sub-Committees feel that the present basis of payment should be continued, and have instructed the Clerk to communicate with the Commissioners on the matter.

Bournemouth.—At the annual meeting of the Insurance Committee on July 15 the Chairman stated that the Drug Fund was more than sufficient to pay the chemists' accounts for 1913.

Great Yarmouth.—At the meeting of the Insurance Committee on July 15 it was reported that the chemists' accounts for 1913 amounted to 1,197*l*. 17*s*. 5*d*. From the Drug Suspense Fund 98*l*. 12*s*. 3*d*. was transferred to the Drug Fund, and 257*l*. 16*s*. 2*d*. to the Panel Fund, showing that the chemists were paid in full.

Halifax.—The deficit on last year's drug account is 410*l*., or 10 per cent. (*C. & D.*, July 18. p. 55).

Hampshire.—At the meeting of the Insurance Committee on July 20 the Pharmaceutical Service Sub-Committee reported on the first complaint it had received. An insured person had complained against a chemist for incivility and inattention, but the complaint against the chemist personally on these grounds had been withdrawn. The chemist, however, in his reply, wrote as follows:

"Saturday evening is always a busy time, and many Insurance prescriptions come in. I make a rule always to dispose of ready-money customers first, if there are any waiting. This is not out of disrespect to National Health Insurance patients, but in order that undivided attention may be given to prescription work."

The Sub-Committee recommended that the chemist be informed that any suggestion against him in this particular case was withdrawn, but the Committee desired to point out that when an insured person takes a prescription to be made up, he or she should not be treated in any way differently from any ordinary customer. The recommendation was adopted. Four applications had been received for the post of officer to check prescriptions, and three had attended a meeting of the Prescription-checking Sub-Committee.—Mr. L. R. Read, Maidstone; Mr. G. C. Taylor, Liverpool; and Mr. G. W. Griffiths, Derby. After having been interviewed, the Committee selected Mr. Griffiths, who will take up his duties about August 9. The question of the supply of linseed meal to insured persons was again considered by the Medical Benefit Sub-Committee, who referred the question to the Pharmaceutical Sub-Committee for their opinion as to whether it should be included in the Tariff or not. The estimate for the Pharmaceutical Committee for the ensuing year was stated to be 116*l*. Mr. A. E. Chaston had reported to the Medical Benefit Sub-Committee that the chemists in the Itchen district were dissatisfied with the Committee's previous decision, and the Clerk was instructed to write to them asking them to mention any specific area in which they complained of the Committee's decision. The question of the supply of dressings in bulk to the doctors had been referred to the Insurance Commissioners, who wrote raising no objection to the suggestion, provided that proper safeguards are adopted to enable the Committee to account on audit for the dressings and appliances so supplied. It was agreed

to make arrangements in accordance with the terms of the letter, and to issue a form for practitioners in applying for dressings, etc., as suggested by the Insurance Commissioners. The scheme for the treatment of tuberculosis and agreement with the County Council was brought up for adoption, and Mr. A. E. Chaston, Ph.C., asked what the dispensary treatment meant, and where the chemist came in? Mr. Wolmer White explained that the dispensary treatment was quite distinct from the ordinary chemist treatment. It was really a technical term describing the treatment. Mr. Chaston: Will medicines be issued from the dispensaries?—Dr. Lyster: That really has not to be considered at all.

Hertfordshire.—The Pharmaceutical Committee has completed the examination of the accounts for the year, with the exception of the claims of three chemists which were sent in late. The balances of the remaining claims, amounting to 464*l*. 8*s*. 3*d*., have been settled. The total paid to the panel chemists for 1913 was 5,000*l*., and dispensing doctors are paid 1,685*l*., and for the two quarters of this year 1,000*l*.

Liverpool.—We learn from Mr. Last (Secretary of the Pharmaceutical Committee) that the "yellow forms" have not been discontinued, as reported last week: The Insurance Committee regard this as a satisfactory method of ascertaining how much the doctors draw out of the Drug Fund for appliances and emergency drugs.

London.—At the meeting of the Insurance Committee on July 23 it was reported that Mr. Edmund White (President of the Pharmaceutical Society) had been reappointed by the Commissioners as a member of the Committee. The Finance Sub-Committee recommended payment of 193*l*. 10*s*. 3*d*. to the Drugs and Appliances Sub-Committee, of which all but 16*s*. 10*d*. was for remuneration of staff. In payment to chemists 67*l*. 7*s*. 8*d*. was recommended for 1913, and 1,441*l*. 9*s*. 3*d*. for the current year. The reappointment of the Sub-Committee included those connected with pharmaceutical service, and they showed no change. The Drugs and Appliances Sub-Committee recommended that after July 31, 1914, accounts rendered for the supply of the following articles be disallowed, and that the practitioners on the panel and the chemists on the London list be so informed, the reason being that the Committee is of opinion that they cannot be "regarded as proper and sufficient drugs and medicines and prescribed appliances required to be provided for insured persons":

Disinfectants.

Condy's fluid
Cyllin
Izal
Jeyes' fluid
Lysol
Sanitas

External Preparations.

Alcock's plasters
Antiphlogistin
Anturic bath-salts
Borolaldehyd
Brine salts
Caustic point
Cleaver's hair-wash
Corn and bunion plasters
Dioxigen
Elliman's embrocation
Glycothymoline
Hazelinc
Hyaline shaving-cream
Liquor carbonis detergens
Listerine
Medicated soaps—hyd. biniod., ichthyol, etc.
Menthol cone
Pond's extract
Tatcho
Thermogene wool

Foods.

Albulactin
Allenbury's diet
Benger's food
Bone-marrow preparations
Bovinine
Bovril
Brant's preparations
Calf's-foot jelly
Ceregen
Charcoal bisenits
Glyucose
Herogen
Horlick's milk
Hygiam
Liquid peptones
Nutrient suppositories
Nutrigen

Ovaltine
Pepsencia
Peptonising-powders
Plasmon
Rennet
Sanatogen
Somatose
Sour-milk bacillus
Valentine's meat-juice
Viroi
Vitafer

Lozenges, etc.

Allenbury's pastilles
Delectable pastilles
Evans's pastilles
Formamint
Glycerin pastilles
Glycerin and black-currant pastilles
Magnum Bonum pastilles

Medicinal Preparations.

Allenbury's Byno preparations
Angier's emulsion
Californian fig-syrup
Chismol, and all similar liquid paraffin preparations
Cream-of-malt preparations
Euo's fruit salt
Fellows's syrup
Feroal
Glyco-heroin
Kepler's preparations
Kruschen salts
Kutnow's powder
Lactopeptin powder
Lamplough's saline
Maltine preparations
Parke, Davis's cod-liver-oil emulsion and combinations
Phosferine
Oppenheimer's Roboleine
Regnin
Scott's emulsion
Mineral Waters—Natural.
Apenta
Contrexéville
Hunyadi
Vichy

*Mineral Waters—Artificial.*Lithia
Potash
Seltzer
Soda*Ointments.*Bengue's balsam
Cuticura
Kelpion
Resinol
Smedley's chillie paste*Pills and Tablets, etc.*Ammonal tablets
Antikamnia tablets
Beecham's pills
Bi-Palatinoids
Boroyal
Ciefa
Ergo-Apiol
Gonosan
Jelloids
Marienbad tablets
Palatinoids
Parke, Davis's tablets
Proprietary makes of Bland's
pills, capsules, etc.
Pulverettes
Purgen
Santal Midy
Savarese's capsules
Soloids
Styptol tablets
Tabloids*Proprietary Drugs.*Argyrol
AspirinBromural
Diuretin
Protargol
UrotropinAnd any other proprietary drugs
for which there is a recog-
nised substitute in the B.P.C.*Proprietary Galenicals.*Concentrated mixtures, liquors,
elixirs, etc., such as those of—
Duncan, Flockhart's
Hewlett's
Oppenheimer's
Parke, Davis's*Wines and Spirits.*Brandy
Liquid peptones (Parke,
Davis's)
Liquid peptonoids
Panocpepton
Vibrona
Wincarnis
Wincarnis and Quinine*Miscellaneous.*Boroglyceride
Chewing-gum
Cresoline
Enules
Euthymol tooth-paste
Fehling's solution
Kolyos
Phylacogens
Proprietary asthma powders
and cigarettes
Rectones
Rubber plaster in reels
Splint-padding

In consequence of panel doctors ordering drugs for surgery use on ordinary prescription-forms, the Sub-Committee recommended:

That the Committee are of opinion that practitioners on the panel should not order on prescription-forms provided by the Committee drugs and appliances which are required to be administered or applied by them in person in accordance with Clause 12 of their agreement with the Committee; that, after July 31, 1914, accounts rendered by chemists for drugs and appliances so supplied be disallowed; and that the practitioners on the panel and the chemists on the London list be so informed.

It was also recommended that Dr. P. W. Thompson, 74 McLeod Road, Abbey Wood, S.E., be allowed to supply drugs and appliances to insured persons on his list. It was agreed that councils of metropolitan boroughs should be authorised to sample drugs and medicines dispensed for insured persons for analysis under the Sale of Food and Drugs Acts. Certain rules for governing the procedure of the Pharmaceutical Service Sub-Committee were submitted.

London Panel Committee.—On July 21 this Committee considered the list given in the Insurance Committee paragraph. Although the meeting was in sympathy with the prohibition of practically all the items on the list, it felt that the Panel Committee should have been consulted before the Insurance Committee was recommended to take definite action. The Secretary (Dr. B. A. Richmond) said that, unless there was a power of disallowing, the doctors would get no advantage from the checking of prescriptions. So far the checking had been in favour of the chemists and against the doctors, because in nearly every case it had turned out that the chemist had under-rather than over-charged. The doctors would receive no return from the money they had invested in the Drugs and Appliances Sub-Committee unless there were stricter rules as to disallowing items. Dr. Keenan remarked that it was "down-right disgraceful that medical men should have ordered such things" as some in the list, and Dr. Richmond deprecated any action to delay issuing the list. Dr. Angus thought the Government would not go on paying for those things, and Dr. Bernstein objected that in some cases tablets put up by large firms were more satisfactory and cheaper than the non-branded article. It was agreed to ask the Insurance Committee not to issue the list until it had received the approval of the Panel Committee. The Committee again considered "Rep. mist." prescriptions. The Pharmaceutical Sub-Committee recommended that until an official Pharmacopœia is recognised by the Insurance, Panel, and Pharmaceutical Committees, or until some modification is made in the present system of ordering drugs and appliances (e.g., a prescription-book), the practitioner should be permitted to use "Rep. mist." provided the date of the original prescription is given, and that the original prescription is supplied during the same calendar month; also that representatives be appointed to confer with the two other Committees upon the recognition of an official Pharmacopœia. After remarks by Dr. E. G. Goldie and

Dr. Major Greenwood, the recommendation was adopted by twenty-seven votes to four. The Committee declined to alter a previous resolution that sera and vaccines (including autogenous vaccines) should be supplied by the practitioner or chemist at the discretion of the doctor. The form of the resolution now proposed was that these should be supplied by the practitioner only, and it was stated that the practitioner would be entitled to charge the Insurance Committee 33½ per cent. profit, just as the chemist would do had he supplied the article. However, the feeling seemed to be that the doctor would have to wait so long for his money that the transaction would not be worth while. It was reported that the cost of drugs and appliances for the first quarter of the medical year 1914 was about 60,000l., whereas the total sum available for the year was about 150,000l. As it appeared that some practitioners prescribed unduly expensive or excessive quantities of drugs, a letter had been sent to every practitioner on the panel calling attention to the matter.

Norfolk.—The Commissioners' report for 1913 shows that 37.892l. 2s. 2d. is available for Medical Benefit, and as 38,430l. has been paid to doctors and chemists, 2,461l. remains to be paid out. Chemists are to be paid 90 per cent. for the quarter which ended on July 14.

Peterborough.—The Insurance Committee has adopted the Pharmaceutical Committee's recommendation that prescriptions should be checked as formerly by an independent person—viz., Mr. Sidney H. Page, chemist and druggist. The expense will be borne in equal shares by the Insurance Committee and the Panel and Pharmaceutical Committees.

Surrey.—The Insurance Committee, consequent on a communication from the Commissioners, have resolved to pay 75 per cent. of chemists' accounts for July. As to checking prescriptions, as the Panel Committee will not share the expense, the Medical Benefit Sub-Committee has recommended:

"That the checking of prescriptions be carried out in the office of the Committee, and when the accounts of chemists for one month have been checked, an inquiry be made from the Panel and Pharmaceutical Committees under Articles 39 (2) and 39 (3) of the Medical Benefit Regulations whether they require the accounts to be submitted to them, and that if no reply is received within ten days it shall be assumed that this Committee do not desire to check the accounts, and accept them."

The Panel Committee has applied for a deduction for panel doctors' payments of 10s. per 500 insured persons and 1l. for more than that to be paid to the Committee. The Medical Benefit Sub-Committee agrees.

Torquay.—At a meeting of the Torquay Pharmacists' Association on July 15 the following resolutions were agreed to:

- (1) Members of the Association having reported a considerable increase in the number of prescriptions under the National Insurance Act simply marked "Rep. mist.," it is desired to draw the attention of the County Committee to this fact and to intimate that, should the same continue, there will be no alternative but to decline to receive such prescriptions. [It may be mentioned that in some districts the Committees do not recognise such prescriptions.]
- (2) That, owing to the difficulty of getting prescriptions written on Sundays and Bank Holidays marked "Urgent," it is asked that the date of such may be accepted as sufficient evidence of its urgency.

Wolverhampton.—The cost of drugs supplied by chemists during the quarter ended April 1913 amounted to 674l.; for the quarter ended July 561l.; for the quarter ended October, 574l.; and for the quarter ended January last, 813l. In the first quarter there were 24,880 prescriptions, at an average cost of 6.55d.; in the second 20,123, average cost 6.69d.; in the third 19,745, average cost 6.98d.; and in the fourth 24,896, average cost 7.84d. For the respective quarters the cost of drugs per insured person was 5.04d., 4.04d., 4.01d., and 4.39d.

SCOTLAND.

Banffshire.—At a meeting of the Insurance Committee at Keith on July 18 it was reported that Messrs. R. W. Garrow, John McMurtrie, and J. Pirie had been appointed by the Pharmaceutical Committee to represent them on the Pharmaceutical Service Sub-Committee. The pharmacists on the Joint Services Sub-Committee are Messrs. McMurtrie and Pirie.

Dundee.—The Insurance Committee, at a meeting last week, discussed a proposal to omit doctors' names in cases of complaints. Mr. A. W. Anderson (Chairman of the Medical Service Sub-Committee) sent in writing his opinion that the proposal was *ultra vires* and unnecessary. Dr. R. C. Buist said this matter is to be considered by the Commissioners in connection with revised regulations as to whether the publication of names should not be definitely prohibited. He moved accordingly, but the previous question was carried.

The British Pharmacopœia.

The new B.P. will be published on October 9, and will come into force forthwith, replacing the present edition, which ceases to be "official" on that date. Copies of the new edition will be available for inspection daily at the General Medical Council Office, 299 Oxford Street, London, W., on and after August 10, also at the branch offices, 35 Dawson Street, Dublin, and 54 George Square, Edinburgh.

EXACTLY fifty years ago the votaries of British medicine and pharmacy were in a state of almost frenzied excitement about the publication of the first British Pharmacopœia, and now we are on the eve of the publication of the fifth edition. Decennial editions are believed to be ideal, but the B.P. editions have been at intervals of three years, eighteen years, thirteen years, and sixteen years. The first edition was a compromise of the formulas and monographs of the London, Dublin, and Edinburgh Pharmacopœias, and was prepared by committees in the three capitals, which were appointed by the Colleges of Physicians in each, who called to their assistance representative local pharmacists. The book was entitled

BRITISH PHARMACOPŒIA.

Published under the direction of the
GENERAL COUNCIL

OF

MEDICAL EDUCATION AND REGISTRATION
OF THE UNITED KINGDOM.

Pursuant to

The Medical Act, 1853.

It was published in two forms—a generous octavo and a pocket size—16mo. It was in two parts, the first consisting of materia medica and the second of preparations and compounds. It was a good book typographically, and medically and pharmaceutically so bad that the greater part of what was printed was used as fuel for the printers' boilers. Yet the preface said:

"In conclusion, the Council warn all Apothecaries and Pharmaceutical Chemists, that on the publication of the British Pharmacopœia it will be necessary, in order to discharge safely their duties to the public, that they should alter or destroy all pharmaceutical preparations made according to previous and now altered formulæ. The Council must further caution all medical practitioners, whether at home, or in the Colonies, or in the public services, that, in order to exercise their profession safely, it is incumbent upon them to make themselves familiar with the changes effected by the present Work."

The second edition had a similar title, and was published in 1867, having been "prepared by Professor Redwood, of the Pharmaceutical Society, and Mr. Warington, of the Apothecaries' Hall, under the direction of a Committee of Council, consisting of the following members: Dr. Burrows, Dr. Apjohn, Dr. Christison, Dr. Sharpey, and Dr. Quain, who also acted as Honorary Secretary." The quotation is from the last paragraph of the preface. Several reprints were published. We have before us one with "1880" on the title-page, and "fourth reprint, with additions made in 1874," which were also published in separate form. They comprised pp. 409-428 of the 1880 edition, and included thirty-four monographs, aqua chloroformi, chloral hydras, pepsin, pulvis glycyrrhizæ compositus, and tinctura quiniæ ammoniata being among the articles officialised for the first time.

The General Medical Council had by this time taken a better grip of the Pharmacopœia and of their legal responsibilities. The Committee for the third edition, published in 1885, consisted of Dr. Quain (Chairman), Sir Henry W. Acland (President of the Council), Edward Bradford, Esq. (Apothecaries' Society of London), Thomas Collins, Esq. (Apothecaries' Hall of Ireland), Dr. D. H. Haldane (Royal College of Physicians of Edinburgh), Professor Rawdon Macnamara (Royal College of Surgeons in Ireland), Sir Henry A. Pitman, M.D.

(Royal College of Physicians of London), and Dr. Aquilla Smith (King's and Queen's College of Physicians in Ireland). They were all members of the Council, who, in the preparation of this edition, "had the advantage of the valuable services of the following gentlemen who acted as

Editors:

Professor Redwood,
Professor Bentley,
Professor Attfield."

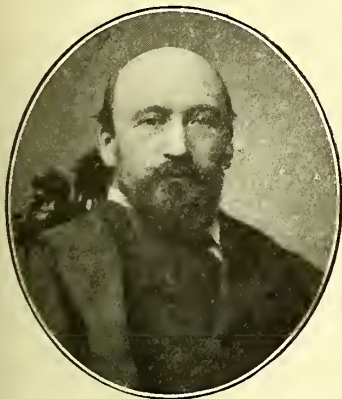
It is necessary to recall that the Council of the Pharmaceutical Society of Great Britain had declined to assist the Medical Council in preparing the edition, feeling that pharmacists should have a statutory share in the work of revision. By the time that a fourth edition became necessary the Medical Council had appointed Professor Attfield as editor, and its own Pharmacopœia Committee consisted of Sir Richard Quain, M.D. (Chairman), Dr. Lombe Atthill, Dublin; Mr. Brudenell Carter, London; Sir Dyce Duckworth, M.D., London; Professor Daniel Leech, Manchester; Professor Donald MacAlister, Cambridge; Dr. D. C. McVail, Glasgow; Mr. C. R. C. Titchborne, Dublin; and Dr. Batty Tuke, Edinburgh. It will be noted that a territorial basis has always been observed in the selection of Council members for this Committee, with due regard to the appropriate distinctions of the members. Before the work for the 1898 edition began there was a somewhat violent agitation in medical circles to oust pharmacists altogether from participating in the work, and the immediate result was the appointment of Dr. Nestor Tirard as Medical Secretary to the Pharmacopœia Committee, a position which he still holds. The Council of the Pharmaceutical Society of Great Britain agreed to set up a Committee; it consisted of—

Mr. Walter Hills, <i>President</i> .	Mr. John Harrison.
Mr. Newsholme, <i>Vice-President</i> .	Mr. Joseph Ince.
Mr. M. Carteighe.	Mr. N. H. Martin.
Inglis Clark, D.Sc.	Mr. W. Martindale.
Mr. W. Gowen Cross.	Mr. Charles Umney.
Mr. Charles Ekin.	Mr. H. G. Greenish, <i>Secretary</i> .

Experts were also appointed as referees, viz.:

Dr. Lauder Brunton, F.R.S.,
Dr. Ralph Stockman, and
Dr. Walter G. Smith, Dublin (Therapeutics).
Professor Emerson Reynolds, F.R.S.,
Dr. T. E. Thorpe, F.R.S., and
Professor William A. Tilden, F.R.S. (Chemistry).
Mr. Thiselton-Dyer, F.R.S., and
Mr. E. Morell Holmes (Botany).

Dr. John Attfield, F.R.S., was the editor, and Dr. Nestor Tirard the Secretary. The edition was published early in 1898, and is still the authority. The pharmaceutical *rapprochement* which Professor Attfield had manoeuvred was developed by the appointment of a committee representative of the Councils of the Pharmaceutical Societies of Great Britain and Ireland—viz., the late Mr. Charles Ekin, Mr. G. D. Beggs, Dr. Inglis Clark, Mr. Walter Hills, and the late Mr. R. J. Downes. Further, a Committee of Reference in Pharmacy was set up, the present members of which are Mr. W. N. Allen, Mr. F. C. J. Bird, Mr. J. E. Brunker, Mr. D. B. Dott, Professor H. G. Greenish, Mr. C. A. Hill, Mr. W. Kirkby, Mr. E. W. Lucas, Mr. G. Lunan, Mr. J. C. Umney, and Mr. R. Wright, with Mr. Walter Hills, Dr. Inglis Clark, and Mr. G. D. Beggs as *ex officio* members—Mr. Hills being Chairman and Professor Greenish Secretary. To this Committee has fallen all the visible work of revision—that is to say, from time to time reports have been issued by the Medical Council of work done by this Committee of Reference in regard to the alteration, correction, and extension of the Pharmacopœia monographs, while individual members of the Committee have undertaken special investigations on subjects bearing upon the revision, and have published the results. This has been done without personal fee or reward.



SIR WILLIAM WHITLA, M.D.



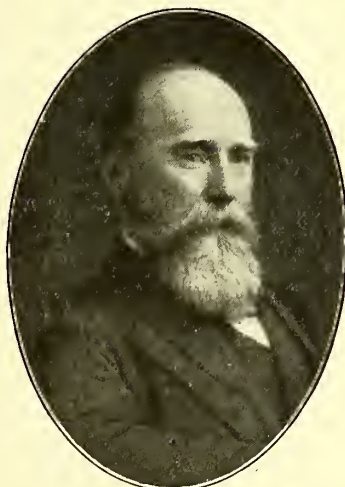
PROFESSOR A. G. BARES, M.D.
[Photo Lafayette.]



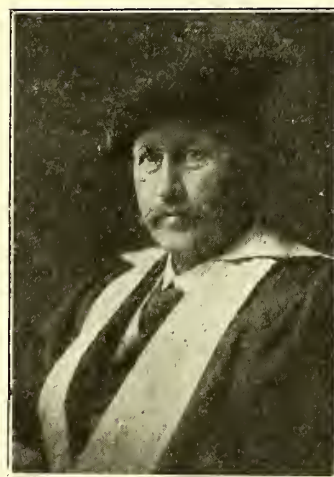
DR. TIRARD (Secretary).



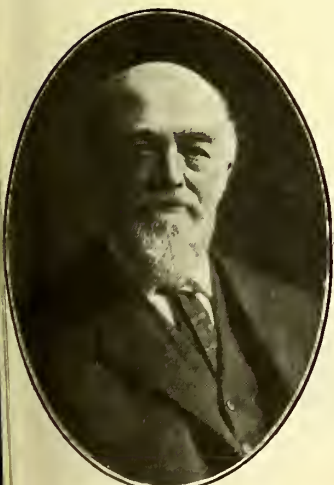
SIR D. MACALISTER, K.C.B.
[Photo Annan.]



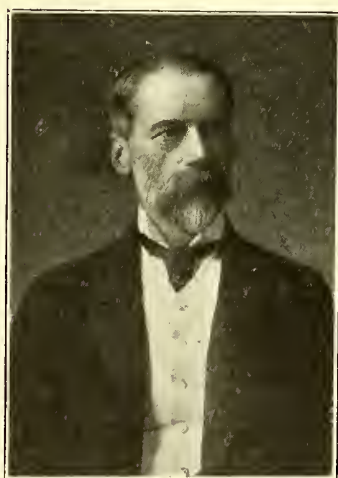
SIR JOHN WM. MOORE, M.D.



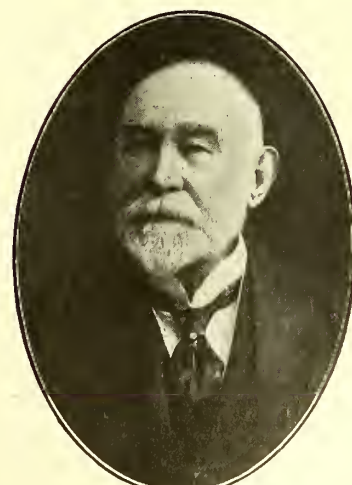
PROFESSOR J. T. CASH, F.R.S.



DR. RICHARD CATON.



SIR T. R. FRASER, F.R.S.



SIR G. H. PHILLIPSON, M.D.
[Photo Lafayette.]

The mantle of Sir Richard Quain had now fallen upon Sir Donald MacAlister, K.C.B., M.D., and as Chairman of the Pharmacopœia Committee he identified himself with Pharmacopœia revision generally by attending the Brussels Congress for the Unification of Pharmacopœia Formulæ for Potent Preparations. Although his duties on the Council enormously increased when he succeeded Sir William Turner, K.C.B., as President, and he became Principal of the Glasgow University, Sir Donald has kept a firm grip of the Pharmacopœia work. His colleagues on the Committee, like those on prior Committees, represent territorial interests, and we may fittingly conclude this article with some notes on the Medical Councillors who are the members of the Committee responsible for the forthcoming Pharmacopœia :

PROFESSOR ALFRED GEORGE BARRS, M.D., F.R.C.P. Lond., is the first representative of the University of Leeds to be appointed a member of the Council, and he has served on it since October 19, 1904. Professor Barrs is a graduate of Edinburgh University, where and at Guy's Hospital he received his professional education. He is Professor of Medicine at the University of Leeds, and is an honorary physician to the Leeds General Infirmary.

PROFESSOR JOHN THEODORE CASH, M.D., F.R.S., has represented the University of Aberdeen on the Council since December 31, 1911. He has been Regius Professor of Materia Medica and Therapeutics in the University since 1886. He studied medicine at Edinburgh University, and after graduating pursued scientific research in Paris, Berlin, Vienna, Leipzig, and London, and subsequently published numerous papers as the result of his researches. As to the latter, we may recall that he undertook the physiological part of the research on the aconitines which Professor Dunstan and his pupils pursued in the Research Laboratories of the Pharmaceutical Society. He has been an honorary member of that Society since 1893.

DR. RICHARD CATON, F.R.C.P. Lond., is the first representative on the Council of the University of Liverpool, having been appointed on January 1, 1904, when he was Professor of Physiology and Dean of the Medical Faculty of that University. He is now Emeritus Professor of Physiology. He is a medical graduate of Edinburgh University, Vice-President of the Liverpool University Council, and consulting physician of the Liverpool Royal Infirmary.

SIR THOMAS RICHARD FRASER, M.D., F.R.S., has represented the University of Edinburgh on the Council since November 13, 1905. He studied medicine and graduated at the Edinburgh University, and succeeded Christison as Professor of Materia Medica in that University in 1877. He is one of the world's greatest authorities on materia medica and therapeutics, and we may mention that it was he who introduced strophanthus as the result of nearly twenty years' careful chemical and physiological research and clinical observation. He and Professor Crum Brown were among the first to study the relations between chemical constitution and physiological action. That is many years ago, but it gained for them as young men the Fellowship of the Royal Society. Sir Thomas Fraser has been an honorary member of the Pharmaceutical Society since 1887.

SIR DONALD MACALISTER was first appointed a member of the General Medical Council on November 13, 1889, by the University of Cambridge, and he continued to represent it until May 27, 1908, the year after he had been appointed Principal and Vice-Chancellor of Glasgow University. He became the representative on the Council of that University on May 27, 1908, succeeding the late Sir Thomas McCall Anderson, M.D. Sir Donald had on November 29, 1904, been appointed President of the Council in succession to Sir William Turner, K.C.B., M.B., and received the K.C.B. in 1908. He was born in Perth sixty years ago, was educated in Aberdeen, Liverpool, and St. John's College, Cambridge, and is a man of exceptional academic distinctions. He was Senior Wrangler and first Smith's Prizeman at Cambridge in 1877, and in the same year became mathematical master at Harrow, lecturer in natural philosophy at St. Bartholomew's Hospital, London, in 1879, and graduated M.B. Cambridge two years later, when he also became a member of the Royal College of Physicians, London. At Cambridge he became Senior Tutor and Linacre Lecturer of Physic, and was consulting physician to Addenbrooke's Hospital, Cambridge. Among other honours conferred upon him is that of honorary membership of the Pharmaceutical Society of Great Britain, and besides medical works he has published a book of poems, which reflects his remarkable linguistic talents as well as a neat turn in versification.

SIR JOHN WILLIAM MOORE, M.D., has represented the Royal College of Physicians of Ireland on the Council since October 18, 1903, having succeeded Dr. Lombe Atthill, and, appropriately enough, took his place on the Pharmacopœia

Committee. Sir John Moore is a Master of Arts and Doctor of Medicine of the University of Dublin, and has for over forty years been closely identified with the practice of medicine in the Irish capital. He is Professor of Medicine to the Royal College of Surgeons in Ireland, was President of the Royal College of Physicians in Ireland from 1893 to 1900, and in the latter year was made a Knight Bachelor.

DR. NORMAN MOORE, M.D., has represented the Royal College of Physicians of London on the Council since May 14, 1901. He graduated in arts and in medicine at Cambridge University, his M.B. having been taken in 1876. He has been a member of the Royal College of Physicians since 1873, and a Fellow since 1877. He is lecturer on the principles and practice of medicine at St. Bartholomew's Hospital.

SIR GEORGE HARE PHILIPSON, M.D., has held his seat on the Council as representative of the University of Durham since May 3, 1892. He is Senior Principal and Vice-Chancellor of his University and Professor of Medicine in the University of Durham College of Medicine, Newcastle-on-Tyne. Sir George was President of the British Medical Association in 1893, and became a Knight Bachelor in 1900. He is a Cambridge man, having graduated in arts and medicine in 1862, and three years later became M.D. and M.A.

SIR WILLIAM WHITLA, M.D., was appointed a member of the Council as representative of Queen's University of Belfast on April 16, 1910. Sir William is a pharmaceutical chemist, having been registered by the Pharmaceutical Society of Ireland on July 2, 1879. He had previously studied medicine, and became in 1873 a Licentiate of the Apothecaries' Hall, Dublin, and L.R.C.P. & S.E., also M.B. of the Royal University, Ireland, in 1877. He served the Pharmaceutical Society of Ireland as a professor in the School of Pharmacy, and is Professor of Materia Medica and Therapeutics in Queen's College, Belfast. His works on materia medica and therapeutics are well known. He was elected an honorary member of the Pharmaceutical Society of Great Britain in 1899, and was knighted in 1902.

DR. NESTOR ISIDORE CHARLES TIRARD, M.D., who has acted as Secretary to the present and the last Pharmacopœia Committee, is Professor of the Principles and Practice of Medicine in King's College, and is one of the senior physicians of King's College Hospital, London. He is not a member of the Medical Council.

We may add that on the present occasion Sir T. E. Thorpe, F.R.S., and Dr. J. J. Dobbie, F.R.S. (Committee of Reference in Chemistry), and a Committee of Reference in Botany (Sir David Prain, F.R.S., and Mr. E. Morell Holmes) have assisted the Pharmacopœia Committee.

It is understood that since March last the work of revision has been under the charge solely of the Pharmacopœia Committee and the editors, Dr. Tirard and Professor Greenish. The statutory responsibility rests entirely upon the General Medical Council, and, on this occasion at least, the Council, through the Pharmacopœia Committee, are taking the responsibility of accepting, modifying, or rejecting the standards prepared by the Committee of Reference in Pharmacy, as well as those of other advisers. The result will be known within three weeks.



THE IRON BRIDGE OVER THE DEE.

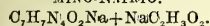
(The B.P.C. River Excursion Party visited this on Wednesday, July 22.)

The Dutch Pharmacopoeia.

Formulae from the New Supplement.

THE new edition of this work, published by the Department Rotterdam of the "Nederlandsche Maatschappij ter Beoordering der Pharmacie" has appeared. This edition corresponds to the fourth edition of the Dutch Pharmacopoeia, and to the Dutch pharmacists is as an event of nearly as much importance as the appearance of an official Supplement. The "Supplement" is a guide to the compilers of the Pharmacopoeia, this being best illustrated by the fact that of the 230 articles of the former edition of the "Supplement" which have been omitted in this portion, 140 have passed into the fourth edition of the Dutch Pharmacopoeia, more or less altered. The interesting character of the work is illustrated by the following formulae which have been selected and translated:

ACETAS NATRICUS CUM THEOBROMINO-NATRIO.



Dissolve 1 of sodium hydroxide in 1 of distilled water, and add to this solution 8 of alcohol (90-per-cent.). Take as much of this liquid as is required for neutralisation of 1 litre of normal volumetric solution of hydrochloric acid and dissolve in it 180 of theobromine. Mix the solution with 136 of sodium acetate, dissolved in 372 of distilled water. Evaporate the mixture until the product weighs 302. Reduce to a fine powder. Contains about 69.5 per cent. of theobromine; it should contain at least 55 per cent.

BOROCITRAS MAGNESIUS.

Citric acid 10
Magnesium carbonate 7
Boric acid 3
Distilled water, boiling ... 40
Dissolve the citric acid, the magnesium carbonate, and the boric acid in the distilled water, filter, and evaporate to dryness in a water-bath.

GOSSYPIUM CUM FORMANO.

Forman ($\text{C}_{12}\text{H}_{18}\text{O}_2$, O.C.H.Cl) (chloromethyl - menthyl ester) 3
Liquid paraffin 2
Cotton-wool 10
Mix the forman with the liquid paraffin and immerse the cotton in it. Pack the cotton into well-oiled small tin boxes.

GOSSYPIUM CUM TINCTURA CAPSICI.

Capsicum 50
Tincture of capsicum (prepared by macerating 1 part of capsicum in powder in 10 parts of 70-per-cent. alcohol) 200
Eosine 0.006

Dissolve the eosine in the tincture of capsicum and immerse the cotton in the tincture, taking care to distribute it proportionately and to lose as little of the liquid as possible. Dry at a low temperature and pack in parchment.

GOUDROLINUM.

Prepared coal-tar 97
Eosine 3
The coal-tar must previously be washed with distilled water until its neutral to litmus.

PASTA DENTIFRICIA.

Sodium carbonate 70
Tooth soap (made with sodium hydroxide and olive oil) 15
Eosine 0.050
Oil of peppermint 1
Glycerin ... a sufficient quantity (about 15)
Mix.

PASTA ZINCI SULFURATA (Uнна).

Zinc oxide 6
Precipitated sulphur 4
Terra silica 2
Benzocated lard 28
Mix.

SAPO SUPERADIPATUS PRO INFANTIBUS.

Fat of beef 120
Olive oil 15
Solution of sodium hydroxide (sp. gr. 1.349) 45
Solution of potassium hydroxide (sp. gr. 1.349) 22
Warm on a water-bath, stirring occasionally, until quite free of fat.

SIRUPUS COLA COMPOSITUS.

Sugar 140
Distilled water ... a sufficient quantity

Solution of sodium glycerophosphate (50-per-cent.) 10
Liquid extract of kola ... 10
Quinine hydrochloride ... 0.2
Strychnine nitrate 0.040
Citric acid 1
Saccharated iron 15
Oil of bitter-orange peel ... 4m

Add the sugar to a sufficient quantity of boiling distilled water. Heat until dissolved; make up the weight to 195 grams. Then add the solution of sodium glycerophosphate, the liquid extract of kola, and the quinine hydrochloride, the strychnine nitrate and the citric acid, dissolved in a sufficient quantity of distilled water to make this solution weigh 10 grams. Mix the resulting syrup with the saccharated iron and the orange oil. Set aside for twenty-four hours and filter if necessary.

[A better formula for this syrup has been given by the "Specialities" Committee of the "Nederlandsche Maatschappij ter Beoordering der Pharmacie" as follows:

Iron and quinine citrate ... 2
Citric acid 4.4
Distilled water 12

Dissolve the citrate and the citric acid in the water and add—

Solution of sodium glycerophosphate (50-per-cent.) ... 40
Liquid extract of kola 20

Filter, and wash the residue on the filter with water until the product weighs 75 grams. Dissolve in it—

Strychnine nitrate ... 0.006
Sugar 48

and add—

Tincture of orange 8
Syrup of orange to make 200]

SIRUPUS THYMI COMPOSITUS.

Herb of thymus vulgaris (in No. 30 powder) 50
Herb of thymus serpyllum (in No. 30 powder) 50
Sugar 600
Distilled water ... a sufficient quantity

Knead the herbs carefully with a sufficient quantity of water until a moist mass is obtained. Set aside for twenty-four hours in a closed vessel; pack it in a percolator and percolate with distilled water until 400 grams of percolate is collected. Dissolve the sugar in the liquid and add a sufficient quantity of distilled water to make 1,000 grams.

SOLUTIO FERRI PEPTONATI. (Liquor Ferri Peptonati.)

Peptonated iron 16
Distilled water, boiling ... 700
Dissolve the peptonated iron in the boiling water, and determine in 20 grams of the solution the amount of iron. Bring the solution to a weight corresponding with 0.48 per cent. of iron and add to 80 of the solution—
Spirit of cinnamon 10
Syrup 10
The solution should contain 0.38-0.42 per cent. of iron.

SUPPOSITORIA HEMORRHOIDALIA.

Bismuth oxydologallate ... 2
Resoreinol 1
Zinc oxide 6
Balsam of peru 0.5
Oil of theobroma 12

Make twelve suppositories, if necessary with addition of small quantity of a mixture of yellow beeswax and sesame oil.

[A better formula is given by the "Specialities" Committee, as follows:

Bismuth oxydologallate ... 6
Resoreinol 1.5
Zinc oxide 6
Balsam of peru 1.5
Oil of theobroma 19
Yellow beeswax 0.075
Sesame oil 1.5

Divide into twelve suppositories.]

BALSAMUM PAPILLARE.

Balsam of peru 4
Powder of gum acacia 8
Tannic acid 3
Glycerin 40
Distilled water 45

Mix the balsam of peru with the gum acacia and 15 of distilled water until the mixture assumes a uniform milky appearance. Then add to it the solution of the tannic acid in the glycerin, and the rest of the distilled water.

BROMOCOCCUM SOLUBILE.

Bromococculum 10
Sodium bichlorate 6
Distilled water 84

Mix the bromococculum with 30 of distilled water and add to it a solution of the sodium bichlorate in 54 of water. Filter.

CHARTA EPISPASTICA.

Cantharides (powder) ... 10
Sesame oil 25
Yellow beeswax 50
Spermaceti 20
Turpentine 5

Macerate the cantharides powder for twelve hours with the oil at a temperature of about 30° C., filter and pour on the residue on the filter as much sesame oil as is required to obtain 25 of filtrate. Mix this solution with the other substances, previously melted together at a low temperature on a water-bath. Let the mixture settle and spread it on one side

of pieces of thick, smooth paper. When the mixture has cooled cut the paper into pieces of 6 by 9 cm.

EXTRACTUM SACCHAROMYCIS CEREVISIE.

Wash yeast from the breweries with water until the liquid passing through the strainer is odourless and without taste. Pour on the washed yeast three times its weight of boiling distilled water and warm the mixture for a quarter of an hour on a water-bath, stirring occasionally. Let the mixture settle, and cool and filter. This proceeding should be twice repeated. Mix the filtered liquids and evaporate to dryness on a water-bath. The product should be kept dry.

HEMATOGENUM.

Blood of cattle, from which the albumen has been removed 300
Agitate repeatedly with—
Ether 100
Set the liquid aside for three days; remove the ether and evaporate the purified blood at a temperature not exceeding 35° C. until the residue weighs 200. Mix 70 of this liquid with 20 of glycerin and 10 of Malaga wine.

LINIMENTUM CAPSICI COMPOSITUM.

Macerate capsicum 1 during five days with alcohol (90-per-cent.) 3. Strain and filter. Dissolve in 523 of this liquid—
Camphor 30
Oil of rosemary 10
Oil of lavender 10
Oil of thyme 10
Oil of cloves 10
Oil of cinnamon 0.2

Add to the solution—

Hard soap (made of sodium hydroxide and olive oil) ... 30
Distilled water 70
Caramel 5
Solution of ammonia (10-per-cent.) 300

LINIMENTUM ANODYNUM.

Hyoscyamus oil (an infusion 1:10 of hyoscyamus-leaves in sesame oil, to which ammonia is added in order to set the alkaloids free) ... 19
Sesame oil 19
Aromatic tincture of opium ... 6
Solution of ammonia 3
Solution of empyreumatic ammonium succinate 3
Mix.

LINIMENTUM CONTRA TUSSIM.

Sesame oil 2
Oil of cloves 1
Purified oil of amber 1
Mix and add to 100 of this mixture 25 milligrams of extract of alkanet.

LINIMENTUM TEREBINTHINE COMPOSITUM. (Linimentum Stokes.)

Oil of turpentine 70
Linsseed oil 5
Acetic acid (30-per-cent.) ... 15
Distilled water 70
Yolk of one egg
Mix.

LIQUOR CARBONIS.

Prepared coal-tar 1
Washed sand 8
Tincture of quillaia 5
Mix the prepared coal-tar with the sand and macerate for five days, agitating repeatedly.

LOTIO CONTRA PHYTRIASIN. (Lotio Cephalica.)

Salecylic acid 1
Glycerin 3
Alcohol (70-per-cent.) 96
Mix.

LOTIO KUMMERFELDI.

Precipitated sulphur ...	20
Camphor ...	3
Mucilage of gum acacia (40-per-cent.) ...	10
Solution of lime ...	134
Rose-water ...	134
Mix.	

MIXTURE CITRATIS MAGNESICI.
(Limonade Purgative.)

Magnesium carbonate ...	12
Citric acid ...	20
Syrup ...	65
Spirit of lemon ...	1
Distilled water, boiling ...	200

Mix the magnesium carbonate with the boiling water and add the citric acid. Filter as soon as the carbonic anhydride is expelled and add the syrup and the spirit of lemon. This mixture should be freshly made when required.

MIXTURE FERRI COMPOSITA
GRIFFITHI.

Powder of myrrh ...	9
Sugar ...	9
Potassium carbonate ...	4
Rose-water ...	450
Spirit of lavender ...	25
Ferrous sulphate ...	3

Mix in the above order. The mixture should be freshly made when required.

OLEUM LINI SULFURATUM.
(Balsamum Sulfuric.)

Boil 6 parts of linseed oil with 1 part of purified sulphur at a temperature of 120°-130° C., constantly stirring, until they are thoroughly mixed.

OLEUM TEREBINTHINÆ SULFURATUM.
(Balsamum Sulfuris Terebinthinatum.)

Sulphurated linseed oil ...	1
Purified oil of turpentine ...	2
Mix.	

OLEATORIUM ANTICATARRHOICUM
HAGERI.

Liquefied phenol ...	3
Solution of ammonia ...	4
Distilled water ...	4
Alcohol (90-per-cent.) ...	9

Place the mixture in a wide-mouth bottle filled beforehand with a sufficient quantity of purified cotton, so that there is no superfluous liquid.

PULVIS DENTIFRICIUS.

Calcium carbonate ...	80
Magnesium carbonate ...	20
Oil of peppermint ...	1

PULVIS DENTIFRICIUS.

Oil of cloves ...	1
Oil of lemon ...	1
Hard soap ...	20
Powder of orris-root ...	60
Calcium carbonate ...	318

PULVIS SACCCHAROMYCIS
CEREVISIE.

Wash brewers' yeast with water by decanting and straining until the liquid that passes through the strainer is inodorous and tasteless. Dry on a water-bath and reduce the residue to powder. The powder should be carefully protected from exposure to moist air.

RACAHOUT.

Vanilla ...	1
Sugar ...	115
Salep powder ...	15
Chocolate, powder ...	45
Potato starch ...	80

Triturate the vanilla with the sugar until a fine powder is obtained, and mix with the other powders.

SIRUPUS AMYGDALARUM.

Triturate—	
Sweet almonds ...	15
Bitter almonds ...	3

from which the skins have been removed beforehand, with water until a mixture of a uniform milky appearance, weighing 35, is obtained. Dissolve in this emulsion at a low temperature—

Sugar ...	65
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SIRUPUS CONTRA CHOLELITHIASIN.

Rhubarb-root ...	4
Jalap-root ...	4
Sodium carbonate ...	4
Sugar ...	80
Tincture of orange ...	15
Distilled water ...	a sufficient quantity

Infuse the bruised roots with a sufficient quantity of water and the sodium carbonate in a covered vessel for fifteen minutes; strain, and pass enough water through the strainer to make the infusion weigh 50 grams. Dissolve the sugar in it and add the tincture of orange.

*According to Dr. van Praag, potassium carbonate is much more efficacious than sodium carbonate.

SOLUTIO ALBUMINATIS FERRICI
DIALYSATA.

A filtered solution of dried egg albumen in distilled water, which, after evaporation at a low temperature (not exceeding 40° C.) gives 10 per cent. residue; sp. gr. 1.026 ... 125

Solution of ferric chloride (containing 7 of ferric chloride in 118 parts of distilled water) ... 26

Mix and agitate until the precipitate is dissolved, and bring the liquid into a dialyser. Dialyse for twelve hours with 250 of distilled water; repeat the dialyses twice with fresh water, and add as much water to the dialysate as is necessary to make its weight 180. Then add 20 of spirit of cinnamon.

TINCTURA AROMATICA.

Cinnamon-bark ...	5
Cardamom-seeds ...	1
Cloves ...	1
Galangal-rhizome ...	1
Ginger ...	2
Alcohol (70-per-cent.) ...	50

Prepare the tincture by maceration or percolation.

TINCTURA AMARA.

(Tinctura Gentiane Composita.)	
Centaureum herb, cut small ...	3
Unripe bitter-orange fruits bruised ...	3
Gentian-root, powdered ...	3
Ginger, powdered ...	1
Alcohol (70-per-cent.) ...	50

Prepare a tincture by maceration or percolation.

TANNAS BISMUTHICUS.

Bismuth oxynitrate ...	12
Solution of ammonia ...	10
Distilled water ...	15

Mix and agitate constantly for a short time; collect the precipitate after four or five hours on a filter and wash with distilled water until the washings no longer afford any reaction with the tests for nitrates. Add to the moist precipitate—

Tannic acid ...	15
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dissolved in 15 of distilled water. Evaporate to dryness on a water-bath and reduce the residue to a fine powder.

TINCTURA ODONTALGICA AROMATICA.

Salol (phenylsalicylate) ...	5
Alcohol (90-per-cent.) ...	194
Oil of peppermint ...	1
Oil of cloves ...	0.008
Oil of caraway ...	0.008
Saccharin ...	0.008
Mix.	

TINCTURA ODONTALGICA.

Macerate for five days, agitating repeatedly:

Cloves ...	6
Cinnamon-bark ...	6
Anise-fruit ...	6
Cochineal ...	4

All reduced to a coarse powder,

with:

Alcohol (90-per-cent.) ...	400
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Then add—

Oil of peppermint ...	3
Filter.	

TINCTURA ODONTALGICA.

Ginger ...	10
Galis ...	5
Benzoine ...	30
Cochineal ...	1
Alcohol (70-per-cent.) ...	300

Prepare the tincture by the maceration or by the percolation process from the ingredients all reduced to a coarse powder.

TINCTURA ODONTALGICA COMPOSITA.

Tincture of myrrh ...	12
Tincture of catechu ...	8
Tincture of rhatany-root ...	4
Tincture of guaiacum ...	3
Tincture of cloves ...	2
Spirit of cochlearia (common scurvy grass) ...	2

Solution of 1 part of oil of cinnamon and 1 part of oil of peppermint in 40 parts of alcohol (90-per-cent.) ... 5

Rose-water ...	32
Alcohol (90-per-cent.) ...	32

Mix and filter.

UNGUENTUM LENIENS ALBUM.

(White Cold-cream.)

White beeswax ...	60
Spermaceti ...	100
Sesame oil ...	600
Distilled water ...	200
Tincture of benzoin ...	39
Oil of rose ...	1

Melt together the white beeswax, spermaceti, and sesame oil, strain. As the mixture cools add gradually, with constant trituration, the mixture of the water, the tincture of benzoin, and the oil of rose. Continue the trituration until cold.

Queer Customers.

THE monotony of life I have often found to be relieved by the requests of customers; fortunately, I can usually preserve a "straight" face, even when asked for something absurd. For instance, "Twopennyworth of sarcastic and turpentine, please," was asked of me one day, and a bottle labelled "The Liniment" handed over. I questioned the girl closely about it; was it spelt s-a-r-c-a-s-t-i-c? She didn't know, so I told her I could smell the turpentine, but not the other ingredient. I suggested it might be acetic acid, but would she get it written down? I did not have her back again; possibly she found the neighbouring drug-stores had a more up-to-date stock! Drugs and chemicals are spelt in a peculiar way sometimes. I once had a dirty piece of paper thrust into my hand by an equally dirty child. On the paper was written "oxy iders ink." I told her I thought she had come to the wrong shop; we did not keep ink; what colour was it? etc. To all my queries she replied, "Don't know." Suddenly I saw it, and gave her what she undoubtedly wanted, for she did not return—oxide of zinc!

I wonder if other chemists notice how often castor oil is fetched by poor people in little cups and mugs with appropriate mottoes. For instance, I have handed it over in those branded: "A present from Mother," "For a good boy," "With love from Dadda," etc.; but I could scarcely repress a smile one day as I caught sight of the motto on a cup I was handing over containing the vile dose; it ran, "Think of me!"

One morning, about 11 o'clock, an order was handed to me from a neighbouring chemists by their messenger-boy: it read, "Capil Equi." I showed the order to my nearest confrère, who remarked, "What do they want horse-hair for?" "Don't you know?" I replied. "Why, to-day is April the first!" So we held a committee meeting among the staff, and the pharmacy was soon solved the problem. We have a black, rough-haired dog, so some of his hair was cut off, neatly wrapped up, and labelled "Capil Canin," and the following message given with it: "We are sorry this is the only kind we have in stock, but if it will answer the purpose we shall be pleased to supply any quantity you wish at half-a-crown per oz." Possibly our neighbours procured a more favourable quotation from the knackers; at any rate, they did not send for any more!—(205/30.)

TREATMENT OF SYPHILIS.—Mr. K. S. Krikorian, of the American School of Medicine, Beirut, writes to "The Lancet" regarding the treatment of syphilis by Syrian unqualified persons. Mercury is used in all cases, usually a week of almost constant calomel fumigation is prescribed, followed for two weeks by a diet consisting only of bread and infusion of sarsaparilla. Mr. Krikorian reports that the treatment is successful.

Sangers as a Centre



A BUSINESS centre in the heart of London nowadays must be a place which by its location and organisation is capable of receiving orders and sending supplies to hundreds or thousands of smaller business places all around it economically and expeditiously. It must be fully stocked, adequately equipped, well-manned, and efficiently controlled. If a factory, its object should be to convert the raw materials into the finished articles in the minimum of time and with the least outlay of money and labour. If a distributing centre, it should be a clearing-house for the convenience of manufacturers and retailers, buying the largest parcels so as to get the best terms, and selling in as small quantities as the retailers' demands may require.

These are some of the reflections that arose after a recent visit to Messrs. Sangers' patents and sundries establishment at 258 Euston Road, London.

In the above heading we have included photographs giving a glimpse of the yard showing part of the motor-service that is at work all day delivering goods throughout London and its environs. The firm have seven motors and ten horse-vans constantly in use. The second picture is of the laboratory, where toilet and other preparations are compounded. These are staples of the business, yet side-lines in the sense that they are a mere unit among multi-

farious supplies which the firm gather from all parts of the manufacturing universe and distribute to buyers everywhere. The immediate purpose of the visit was to inspect the alterations on the premises consequent upon the firm acquiring a row of eight dwelling-houses in Tolmer's Square immediately behind the Euston Road premises. We may recall the fact that when the firm took possession of these premises in 1906 they had six distinct buildings standing upon half an acre of ground. These they adapted to their requirements, but since then they have been extending the accommodation by adding a storey to two of the houses and building a new one so as to afford increased office-room and storage for proprietaries, sundries, and bottles. Of the eight houses in Tolmer's Square, the freehold of which they have purchased, three have now

been taken in, and the rest will be used as occasion and opportunity permit. The effect of the present extension is to add to the accommodation as much floor-space as the firm had in the old premises in Winsley Street, which they vacated in September 1906, thus bringing up the accommodation to seven times more than there was in Winsley Street. A sevenfold extension in less than a decade is a significant fact. But the addition also means an advance step in the receiving and distributing organisation, for the basement of the Tolmer's Square houses is on a level with the Euston Road, so that henceforth one side of the premises will be used for receiving goods and the other for distribution. Since the retirement from the business on June 1, 1907, of the late senior partners, Mr. Charles Sanger and Mr. E. P. Sanger, a remarkable transformation in the internal organisation has been

carried out by the principals, Mr. Ernest Sanger and Mr. Henry Sanger, sons of the late Mr. Charles Sanger. They have associated with them as partners the men at the head of departments—Messrs. H. F. Smith, D. F. Smith, A. Pulford, C. S. Present, S. H. Carr, F. Smith, and E. A. Smith, who, being familiar with the business, its customers, and its possibilities, have been willing and helpful coadjutors in the developments. Mr. Ernest Sanger has visited the United



MR. ERNEST SANGER.



MR. HENRY SANGER.

States and the Continent for the purpose of, *inter alia*, picking up improved methods wherever he has seen them, as well as getting new goods, and some of the results of such visits are reflected in the liberal manner in which time-economising and labour-saving devices and methods are used throughout the establishment. We ask our readers to glance at the picture of the interior of the patents warehouse on the next page. On the right of it, but not visible in the picture, is a telephone-room. Here from morning to night are engaged seven young men, each of whom wears a telephone ear-cap. Before him is a book of duplicate invoices. These seven men do nothing else all day but receive orders from the firm's customers, and as they write them down they are writing also an invoice of the goods with all instructions given by the customers. As fast as the order is written

down and completed it is passed on to the warehouse department and executed, so that in many cases the goods are out of the place and on the way to the chemist's shop within half an hour. Two thousand orders are received and filled every working day, though on Saturdays they are not so numerous as on other days. Postal and export orders are treated much in the same way; every order from the country is executed on the day it is received, and for export orders the first available steamer is the one by which the goods are shipped. How it is done we do not attempt to explain in detail, but a general idea may be given. First it may be noted that there is a sundries warehouse as large as the patents one, and while these are the main buildings for order-execution, there are numerous warehouses of what we may call the supplementals, such as heavy proprietaries, sponges, bottles, earthenware, combs, brushes, perfumery, toilet-preparations, soaps, and everything else that chemists and druggists want. The two main warehouses draw their working daily supplies from these, but all of them participate during every hour of the working day in filling orders.

When an order is received it is multiplied a sufficient number of times to enable it to be passed round. There

is at least one wooden tray for each order, but there may be more, and upon each tray is put a "sticker" — a label about $1\frac{1}{2}$ in. deep by 1 in. wide, printed in red ink with such words as "Sundries 3 trays" in bold letters. These go round until every item on the order is put in the tray. By the time a packer comes to deal with the contents of a tray he knows whether or not it is one of a series or a single, for in the latter case it would be labelled "1." It will be observed from the

picture of the patents warehouse that it is a lofty building, about 90 ft. long, with a gallery running all round, which also is utilised for stock. It is a principle of the house that every department in which work is done should be open to inspection, casually or continuously, by those in authority. Each warehouse has an office for its manager, as will be observed from the picture. The arrangement of stock is such as to facilitate despatch: that is the first consideration. Blocks of shelving back each other, thus forming a bay; in the bay is a ladder that cannot be taken out, because it slides along smooth rails on top and is caught at each end. Thus a ladder is never in the way and never out of the bay. The goods are not arranged in alphabetical order, although each row of shelves is designated by a letter from A to Z, but the patents most in demand are nearest to hand. There is a plan at the end of each set of shelves that shows the location of every item stocked therein, while a small fitting of shelving is placed at the gangway-end of each block for what are called "quick smalls"—that is to say, items which are very frequently required during the day in singles or twos. The main sundries warehouse is of similar construction and not unlike the patents one

in arrangement. Both are in juxtaposition and similar in working. By the time that all the goods are collected for an order they are in a tray or trays with a tally upon which is printed the customer's name and address and the manner in which it is to be carried or delivered. Cabinets of such tallies, arranged in alphabetical order like a card-index, are placed handy. Some of the tallies are gummed, others are printed on Manilla paper or stiff card, and the scheme saves much time and reduces errors to a minimum. For Metropolitan delivery the trays are utilised, and this saves time. It was an interesting sight to see one of the partners, in holland coat, superintending the handing-out of the first daily delivery of goods for London chemists ordered that morning. The trays and boxes were going straight into the motor-vans, and would be received by the chemists before noon.

When the warehousemen have done their share of the work the orders are passed on to the counting-house, or perhaps we had better say the part of the establishment which is devoted to pricing, invoicing, filing, bookkeeping, and everything else concerned with accountancy, correspondence, and posting. This part of the business is an eye-opener in regard to the extent to which mechanical

aids and modern appliances are employed. When an order comes from the warehouse to the invoicing department it is priced and added up by a clerk. Then it is typed in another room, the human addition being verified by a mechanical computer. The room in which this is done is spacious, airy, and lighted from the roof. The walls are devoted solely to filing, so that it is quite easy for any of the lady clerks engaged in the department to find in half a minute or so any order from any individual. This de-



MAIN PATENTS WAREHOUSE.

partment is being extended so that more than double the space will be used for it.

If justification of the title of this article were needed in any other respect than what has been indicated, it is provided in the liberal use of wires of communication converging upon No. 258. Eight telewriters are installed in the premises, and are quite distinct from the thirty telephones which the firm have, being served by different wires. When the *C. & D.* representative called he was shown into Mr. Ernest Sanger's office; he found that his name and the object of his call had been written by the telewriter pencil on the paper of the instrument. The same message was simultaneously carried to seven other "heads." It is almost uncanny to see the telewriter doing its work before a man who has a telephone-receiver at his ear and is keeping up a conversation with someone miles away, while his eye is taking another message to his brain. The dictaphone is another of the up-to-date appliances for business expedition that Messrs. Sangers have installed. They have seven of them. In the letter department we observed that the upright filing system is employed, and loose-leaf books are solely used. Mechanical adders are as numerous almost as typewriting-

machines, and there are many other little, but useful, devices, the whole aim of which is to save time and to facilitate the despatch of invoices to customers, so that they may receive them not later than the goods. Even postage-stamps are affixed by a machine. Our representative saw it working in the invoice-room.

By the time that one reaches this part of the establishment one gets into the neighbourhood of everything that has to do with printing. There is a well-equipped com-

system that automatically comes into play when a certain temperature is reached. Throughout the whole of the establishment were observed here and there cylindrical bins. "What are these?" Mr. Sanger was asked. "Water-cisterns," he replied, taking off a lid and lifting up one of half-a-dozen water-buckets neatly nested within, each being filled with water when the top one is taken out. The freshness of the paint and distemper throughout the building was also remarked upon, whereupon Mr. Henry Sanger stated that the firm



A "HEAVY PATENTS" STORE.

posing and machine room, where, on the occasion of this visit, they were just finishing placing Durato flooring, upon which was to be put another printing-machine. This flooring is splendid stuff for covering, as it is impermeable to water. We notice that it is used throughout the floors which are devoted to the manufacture and packing of preparations, perfumery, and so on. Large stocks of such preparations are kept ready bottled and finished with everything except the labels, the fixing of which is in many instances left until the last moment, because the up-to-date chemist wants his own name and address upon the labels of specialties. Messrs. Sangers do this for him. They have an enormous and varied stock of labels, to which a separate department is devoted, and the printing-presses are kept busy all day printing names and addresses.

The filling and finishing floors are quite a feature in these premises. In one of them an enclosed section is entirely devoted to the weighing and wrapping of Fenning's powders. Many kinds of things are made upon the premises—flesh-gloves, for example; but they are among the simplest and easiest of the manufactures. Our representative found a group of young women busy collating the parts that go to make a truss, putting them together, sewing, and finishing off. Away up on one of the flat-roofed buildings was a forge and smithy, where the springs for the trusses are made. During this tour of inspection bottles appeared to be everywhere: even on the roof there were reserve stores that had come straight from the bottle-factory.

One of the most interesting departments of the premises is that beyond which few callers go—namely, the showroom. This is practically in three sections, one being entirely devoted to sponges, the second is made up of upright showcases containing specimens of goods, and the third is a novel arrangement of baize-covered doors in two recesses which contain about thirty. This is called the "Multum," and we reproduce a photograph of it. Samples of goods are affixed to each side of these in the manner shown in the illustration, so that the visitors have the advantage of inspecting the samples as easily as if they were placed in a book. All these goods are represented by big stocks on the premises.

During a tour such as this one notices many things which customers never see. The fire-resisting arrangements are in evidence—the big pipes noticeable in the picture of the patents warehouse are part of the sprinkler



THE "MULTUM" SHOW STAND.

have two men who are always engaged on cleaning and painting the place; in fact, they are like the Forth Bridge painters, who begin at one end of the bridge and paint right on to the other, taking four years for the job. In Messrs. Sangers' premises two years is the limit.

A Galenical Relic.

MR. W. M. TIMS, of Cobham, sends us a quaint bottle labelled "Pomeranzen Spiritus," which has a history extending back about sixty or seventy years. An examination of the red liquid in the bottle shows that it is one of the orange bitters which have been employed in Germany for many years as stomachics. Such names as Elixir Viscerale Hoffmanni, Elixir Balsamicum, Pomeranzen Elixir, Wiener Magentropfen are generally associated with bitters of this class, although the sample before us is less bitter than would result from the formulæ given in the present edition of Hager's "Pharmaceutischen Praxis," where gentian and wormwood figure along with orange-peel and cinnamon. The Pomeranzen Spiritus is not much unlike tinct. cardam. co., except that the orange flavour predominates. The Swiss Pharmacopœia under the title Vinum Aurantii Compositum, *syn.* Elixir Aurantii Co., gives the following formula:

Parts	
Bitter-orango peel ...	12
Cassia ...	4
Sodium carbonate ...	2
Alcohol ...	8
Malaga wine ...	100

All by weight. Macerate for eight days, press, and add to the liquor:

Extract of wormwood,
Extract of cascarilla,
Extract of sacred thistle,
Extract of gentian, of each 2 parts

Allow to stand for eight days to deposit, then filter.

This is a fair representation of the old elixir, and a very comforting tonic.



Marie-Antoinette's Pharmacy.

THERE are certain streets in Paris which might aptly be termed so many hundred yards of history, almost every corner and almost every house recalling some incident or feature of past centuries. Few thoroughfares are more interesting in this sense than the Rue St. Honoré (the main road from the east to west of Paris before the Rue de Rivoli existed). The eastern end still preserves much of its old-world aspect, in spite of the rapid demolitions and reconstructions which are characteristic of modern Paris. Here, close by the Halles Centrales, at No. 115, is an interesting old pharmacy which completes

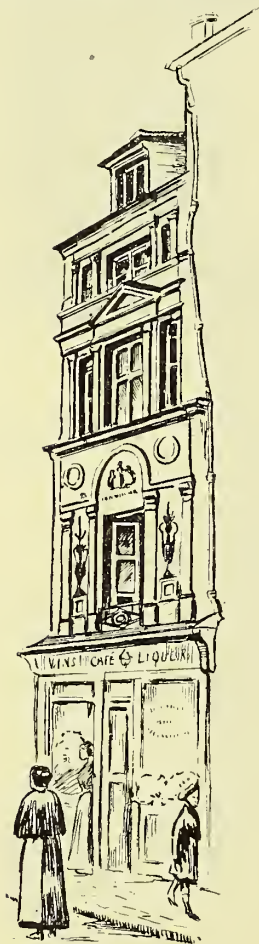


FIG. 1.



FIG. 2.

its bicentenary this year. On the shop-front is the inscription "Pharmacie Cadet-Derosne, founded in 1715." When the house frontage was scraped down for cleaning, some few years ago, two ancient inscriptions, placed between the first-floor windows, were laid bare. These have been, of course, piously preserved. One runs, "Fabrique d'Extraits évaporés dans le vide"; the other, "Produits chimiques et pharmaceutiques de Bernard Derosne & Ossian Henri" (fig. 2). Comparatively little is known of the early years of this pharmacy (1715-1769). It is probable that until it was purchased by Cadet de Gassicourt it was a modest and unassuming establishment, as the well-known pharmacist of the Court of Louis XVI. and Marie-Antoinette seems to have acquired the business for a modest figure (about 240*l.* or 280*l.*) from M. Chachignon, his immediate predecessor. It was in 1769 that Cadet took Derosne, one of his relations, into partnership, and they worked it up into such a first-class pharmacy that when Cadet sold out, seventeen years later,

his share alone was valued at the equivalent of 3,320*l.* sterling.

Several items figuring in the Codex are said to have been introduced by Cadet while keeping open shop at this address—among others, pectoral gum, pâte de guimauve, and ipecac. lozenges; the last are still (or were till a few years ago) made to Cadet's formula and sold by the present possessor of the pharmacy. Two articles well known in England—peppermint-drops and smelling-bottles—are also said to have been popularised in Paris by Cadet. He was "a delicate and scrupulous pharmacist, to whom delicate analyses were often entrusted." He was friendly with all the great scientific men of his epoch, and Lavoisier and Parmentier, Coulomb and Fourcroy, Macquer and many others must have often passed over this threshold. The present proprietor, M. Plaix, points with pride to a handsome set of white pharmacy-pots with delicately coloured Louis XVI. ornament as a relic of the golden age of the establishment, and a unique glass receptacle on which the original label bears the name of Cadet & Derosne, "apothicaires," among garlands, true-lovers' knots, and other ornaments characteristic of the epoch. The drug-pots in question were lent by M. Desprez (then owner of the pharmacy) to figure in one of the Retrospective Sections of the 1900 Paris International Exhibition.

Although essentially a high-class pharmacy, Cadet's "never closed its iron doors against the desolate and poor." He daily gave consultations for the minor ailments of the needy, and if the medical profession were inclined to criticise such philanthropy, he could reply that not only did he freely give advice, but medicaments and even money. A curious incident is related as a proof of this. A wretched beggar-man applied to Cadet for advice and help one morning, and went away better in body and purse, like so many others. The same evening a lordly coach stopped at the pharmacy door, and Monseigneur le Duc de Crillon alighted and entered. He complimented Cadet on his charity with such exact details that the pharmacist at last perceived that his Grace and the beggar were one and the same individual. The Duke proved a capital customer, and Cadet's alms an excellent business investment.

Of François Derosne less is known. He was admitted as a member of the Paris Guild of Master Apothecaries in 1779, when he was thirty-six years of age, and lived until 1805. He left a widow and two sons, who carried on the pharmacy. Both these sons became members of the Academy of Medicine. Jean François, the elder, was born in 1774, and lived till 1855. Charles Louis, who was five years younger died in 1846. They were both in the prime of life during the First Empire, and when sugar-beet growing was commenced C. L. Derosne took up the question from a scientific point of view. In 1811 he published a work on the bleaching of raw sugar; in 1812 he translated Angar's treatise on European beet-sugar, and in 1813 he wrote on the treatment of beet sugar with animal charcoal and the manufacture of bone-black. It is curious to reflect that one of the great metallurgical establishments of the twentieth century had its origin in this pharmacy, and still more singular to trace its evolution. Needing extensive distillery apparatus, C. L. Derosne started a coppersmithy at Chaillot, then a pleasant riverside village just outside Paris, and engaged a capable workman as foreman-manager. This workman's name was J. F. Cail, and how the Chaillot boiler-factory grew into the "Etablissements Cail" is part of the history of modern metallurgy.

The two Derosne lads (Jean François and Charles Louis) probably stood by their father on the old balcony (still visible above the shop) when the tumbrel rumbled up the stone-paved street carrying Marie-Antoinette to execution. The ill-fated Queen was a client of Cadet-Derosne, and it is told that among other things they put up for her was the "invisible" or "sympathetic" ink in which she carried on a correspondence with the Comte de Feurs, one of her many admirers. An old clock marked "Lepaute, horloger du Roi" stood until a few years ago in the shop, and some of the woodwork and decoration looked to me old enough to date from before the Revolution,

but M. Plaix is under the impression that it was refitted at a later date, probably during the Empire.

In 1786, when Louis Claude Cadet de Gassicourt sold out his share in the pharmacy, the agreement was that the 83,000f. which he received should be paid to him (or his son Claude Louis) on the condition of their not opening an opposition officine. When, however, Louis Claude was dead, Charles Louis (born in 1769) came to man's estate and decided rather to forfeit the large sum than to quit his father's profession. He studied under Fourcroy and Vauquelin, qualified in 1800, and opened shop almost opposite No. 115 (fig. 1). where the widow Derosne still kept up the sign of "Cadet-Derosne," and he disputed her right to use his father's name. Charles Louis Cadet was intellectually a worthy son of a remarkable father, and rose to be head pharmacist to Napoleon I., on whom he was in personal attendance at Wagram. He died in 1821, and the opposition business descended to his son, and, although transferred to another address, existed till quite recently. The direct male line of Cadet de Gassicourt exists at the present day, and has been traced up to 1903 by a pharmacist biographer who succeeded to their business.

The Old Pharmacy of Troyes.

STANDING as it does on the Belfort-Basle line from Paris to Switzerland, Troyes is a town English tourists might easily visit; but I doubt if one in a thousand ever thinks of stopping there. It is a sort of French Canterbury, full of old timbered gabled houses and magnificent churches, which (like the princesses in



LA PHARMACIE DE L'HÔTEL-DIEU.

the French fairy-tale) are each handsomer than all the others. It gave its name to the "Troy" weight which goldsmiths and apothecaries have used since mediæval times, and here the victor of Agincourt wooed and won the fair Katharine of France (Shakespeare's "Henry V."). But all this is by the way. Strolling down to the Hôtel-Dieu to see the wonderful iron gates which no tourist must miss, I remembered that the pharmacy of the hospital is of particular interest, and decided to make an effort to view this curious old place. It is not open to the general public, the gatekeeper informed me, but a *C. & D.* card has a great effect in opening locked gates, and I was ushered through various quaint, peaceful courtyards to the pharmacy, where the white-bloused head-pharmacist was (like his race) courtesy personified, and allowed my nun-guide and myself to penetrate into the "Museum."

It is really worth visiting—somewhat suggestive of the St. Germain pharmacy described recently in the *C. & D.*, but much larger. There must be on the shelves 200 or 300 pharmacy-jars; and some 360 drug-boxes are placed over these on the top shelves of the lofty and spacious apartment, a handsome set of carved steps on rollers being provided for access to the upper portion of the stock. There were two sets of boxes, one series being cylindrical and bearing inscriptions and ornaments only. The second and more conspicuous series consists of large square chests with hinged lids. Each of these

is embellished with a painting emblematic of its contents. Thus the two chamomile-boxes each bore a representation of the plant—one was quite unlike the other, but that was an "artist's licence," I dare say. The hartshorn-box, beside the inscription "Corne de Cerf" showed a prancing antlered quadruped. In the days when laboratory porters were ignorant of the "three R's" I have little doubt these pictures had a practical as well as a picturesque purpose. "Many still contain drugs," said my quiet, black-robed guide. "Here, for instance, is one which has been taken down from the shelf and placed on the window-sill. You see it bears the picture of two mummies and the title 'Momie.'" She opened it and handed me a piece of vertebra—blackened, but unmistakable. "I think they used it for the bitumen it contained," she added. "Yes, we do occasionally use the contents of the boxes. Not this one, of course, but the 'aloes' for instance." The jars, on the contrary, although all capped, and in many cases inscribed, are all empty. They are of the usual type, albarelli and syrup jars, and all (except a few) in blue and white ware. My informant could give me no dates, but I should place them as seventeenth or early eighteenth century ware. Nor did she know who painted the boxes—it may have been a patient, or possibly the nuns. The few pots—about half-a-dozen—that do not match the rest are in blue, yellow, and white, "albarelli" in form, and of an earlier date, perhaps Italian. A couple of larger pots with mythological or biblical figures I should ascribe to about the same period.

There was much else to see—a dozen little bronze mortars and pestles in beautiful preservation, the pewter flagons and plates once used for the dining-table, a quaint metal vessel which I mistook for a long-spouted teapot, but which I was informed was used to administer draughts to patients; some large covered pewter pots used for vegetables; and various glassware, this last comparatively modern. Finally, in the outer laboratory, where the head pharmacist was busy during my absence, he showed me two larger mortars. One, undated, was marked "CLAUDE BENARD M. FONDEUR [master founder] PARIS," and bore lozenge-shaped squares. "There were doubtless formerly fleur-de-lys on all those lozenges," said the pharmacist, "for you see that on this second mortar, dated 1654, each lozenge bears the Royal flower. I have no doubt the others were filed off at the time of the Revolution." Both had ram's-head handles, and stood some fourteen inches high. Here, also, two neatly nested sets of brass weights stood by his modern scales, marked with the old-fashioned ounce and pound.—*C. E. L.*



THE CHRYSANTHEMUM HOUSE, EATON HALL.
(Visited by the B.P.C. Party this week.)

A Finland Pharmacy.

HANGÖ, in Finland, is one of the daintiest, quaintest, most beautiful, and picturesque watering-places that could be imagined. The sky is as blue as blue can be; the houses, made of wood, are gaily painted in all sorts of colours; and the splendid beach is dotted with bathing-tents. A dazzlingly white casino is a centre



OUTSIDE THE SERVING-COUNTER.

of attraction. It has a fine *cuisine*, good music, recreation-rooms, tennis-courts, sun-baths—in fact, everything that is needed for man's pleasure and recuperation.

The pharmacist of the town is Mr. H. M. Aquielæns, and he has a picturesque pharmacy, quaint and remarkably cool and attractive. Also it is up to date. We give two views of the interior, for which we are indebted to Mr. W. H. Saunders, Hanover Street, Liverpool, who has recently returned from a tour in Russia and Finland. From the first photograph it will be noticed that the National Cash Register Co.'s apparatus is installed on the counter, and alongside it is a case of tabloid products. Mr. Aquielæns, the proprietor, is a fully qualified pharmacist, and he does a good business, in which he is assisted by four ladies, besides another at the cash-desk. When Mr. Saunders called at the pharmacy, he found them all as busy as they could be. In the second photograph we see the



BEHIND THE SERVING-COUNTER.

working side of the counter. It is a mere glimpse, but the picture suffices to show how cool and airy the place is. Mr. Saunders says that no camera could do justice to the place; it misses the colour and the charm of it all. Nevertheless, one can see that the ladies

are not so severely attired as some of their British pharmacists are. The fittings are of the conventional North European type, but there is a hint for someone in the shelving, which is severely plain and has a finish that is not exactly a cornice. The row of small drawers at the bottom is uncommon. The bottles are the Bavarian style, with mushroom-shaped stoppers and enamel labels. The pots are white and rather to the tall side, but that enables them to be easily grasped by the hand. Mr. Saunders speaks in glowing terms of the courtesy of the proprietor and his assistants, all of whom gave him a welcome so hearty that he will never forget it.

German Drug-stores.

EVERY visitor approaching Hamburg from the sea knows the little outport of Cuxhaven, situated at the mouth of the Elbe, which bears the same relationship to Hamburg as, say, Tilbury to London. Mr. Otto Plath, whose portrait and store we reproduce, is a druggist at this port, and although he has never visited England, he has written us some notes in English, and we incorporate with his observations sketches of two other druggists' shops in different parts of the Fatherland, which illustrate the exterior aspects of such businesses.



MR. OTTO PLATH.

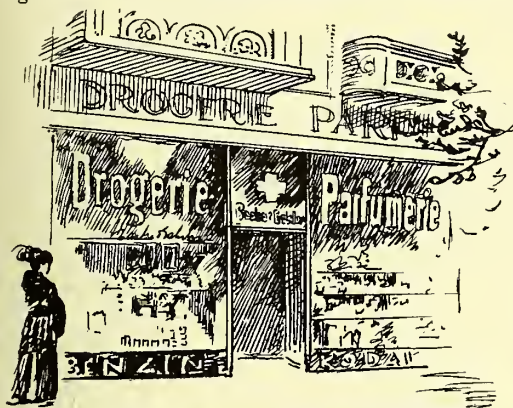
Mr. Plath's store is in many respects similar to druggists' shops and pharmacies in this country. Mr. Plath states that many chemists on this side of the North Sea have an erroneous idea as to the nature of the business conducted by a German druggist, and, as a regular reader of the *C. & D.*, he is desirous of enlightening others on this point. He states that the German retail druggist has generally had a good-class education, and after serving a three years' apprenticeship usually enters for the examination as an assistant; but, adds Mr. Plath, "Alas! this is not yet compulsory"! Thereafter he usually acts as an assistant until he goes into business on his own account. Mr. Plath



INTERIOR OF MR. PLATH'S DRUG-STORE.

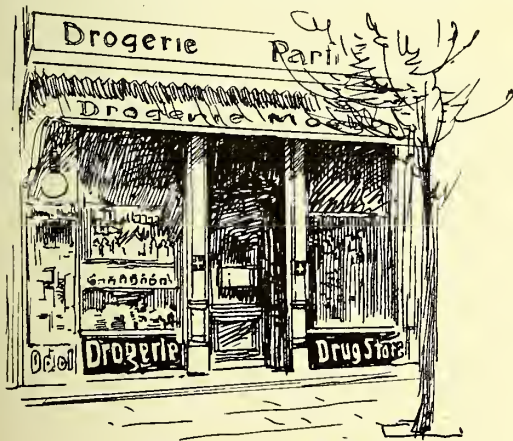
states that it is to his class that advertisers in *THE CHEMIST AND DRUGGIST* appeal, and a glance at the interior of his store confirms this. We note such lines as Scott's Emulsion, Eno's Fruit Salt, Strobin, Sanatogen, Odol, and 4711 Eau de Cologne. Other stock displayed shows the important part which sundries and toilet-preparations play in the business of the German druggist. In the background we note the usual shop-rounds and ointment-jars,

the labels of which bear the names of familiar chemicals and drugs which are in request in the home, this emphasising the fact that household remedies are obtained from



A GERMAN DRUG-STORE.

the drogist and not the apotheker, the latter chiefly supplying the prescription. It need hardly be said that it is only the more potent preparations and poisons that cannot be obtained at a German druggist's; these include digitalis, aconite, morphine, opium, etc., although many tinctures, mixtures, extracts, pills, and tablets are also excluded. There are exceptions, however, these including tinctures of arnica, myrrh, benzoïn, and valerian; spt. æther. co., malt-extract, cod-liver oil, and other harmless preparations make up a goodly number. Cosmetics, toilet-soaps, and chemicals for technical use form important items in the



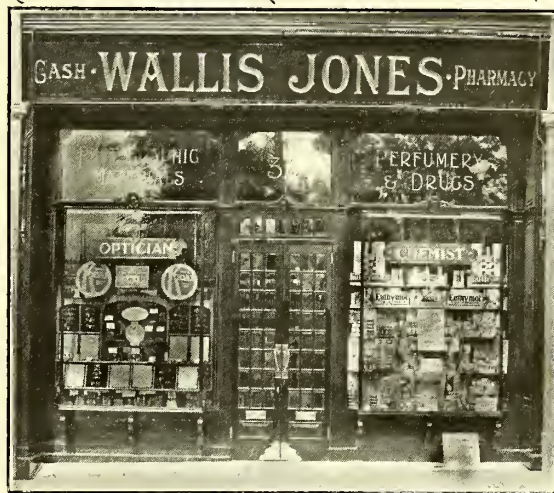
A SOUTH GERMAN DROGERIE.

druggist's trade. Recipes handed over the counter may be made up, provided they do not contain any of the proscribed drugs. Industrial poisons, such as arsenic, potassium cyanide, and corrosive sublimate, are allowed to be sold, and less toxic poisons so long as they are required for industrial purposes. A good business is done in perfumes, toilet-powders, dentifrices, and similar preparations, while druggists' sundries, including rubber goods, hair-brushes, combs, photographic supplies, mirrors, and mineral waters, are staple lines. Mr. Plath, who employs two assistants, has also a laboratory for conducting analyses, and is in every way a keen business man.

DOCTORS' SHOPS IN SCOTLAND.—In a note on Dundee doctors' fees in 1808, the "British Medical Journal" (1914, I., 1254) remarks that the repeated reference to "the shop" shows that all the medical men dispensed their own medicines either from the house or from a shop.

A North London Pharmacy.

THE new pharmacy which has just been opened by Mr. Wallis Jones at 36 The Market, Palmer's Green, London, N., is the *dernier cri* in business premises for a chemist. A representative, who journeyed to Palmer's Green to see the new shop, reports that it bears out all the rumours that had reached Cannon Street as to its distinctiveness. Mr. Wallis Jones is one of the modern type of pharmacists, and is acquainted with all the forms of pharmacy as practised in this country. He was apprenticed to the late Octavius Corder, Norwich, and imbibed some of the love of botany which characterised his master. Mr. Wallis Jones passed the Minor in 1905, and, as befitting the development of a modern pharmacist, afterwards took up the subject of optics, and obtained



the diploma of the British Optical Association. A man of this sort needs a pharmacy which expresses his aspirations—the kind of pharmacy which was fitted up for him by Messrs. Philip Josephs & Sons, Ltd., 93 Old Street, London, E.C. The photograph given here of the exterior was taken on the day of our representative's visit. It will be noticed that the shop front is of a new design, with recessed bay-windows, and the door in the centre. The work is carried out in mahogany, which gives the front a rich and distinctive appearance. One window is devoted to optics and the other to pharmacy, both being lighted with interior signs of oxidised steel, which serve the double purpose of advertising and illuminating the contents of the windows. The windows are lined with oak parquetry; one has special fittings adapted for the display of optical goods, and the other is fitted with glass shelving and bronzed fittings. The double door is of a distinctive design, being fitted with small bevelled panes of glass, which reflect the light and attract the attention of passers-by. The doors, which have handsome brass fittings, close automatically. The recessed pavement is of mosaic, with a centre medallion embodying Mr. Wallis Jones' name, address, and motto "Purity ensured." The interior of the shop is 24 ft. by 18 ft., which gives plenty of space both in front and behind the counter. The serving-counter is on the right-hand side, and takes the form of a modern "all-glass" with large perfume-cases on each side. The wall-fitting is lined with mirrors, which show up well the recess-labelled bottles and olive-green ointment-jars. The dispensing-screen is an "all-glass" one, with recessed centre cases, and the dispensing-counter behind is fitted up in a manner embodying several ingenious ideas. On the left of the shop is a wall show-case well adapted for the display of stock. The chairs are reproductions of old Chippendale, with

ball feet, in dark mahogany and morocco. The colour scheme is in green and dark red. Behind the pharmacy a full-length sight-testing room has been fitted up, and is conveniently arranged for the purpose. There is also a commodious stock-room and telephone cabinet. Electric light is employed throughout. It is a pharmacy which should be seen by those who contemplate opening a business, or who are interested in the development of business premises.

A Warwick Pharmacy.

THE ancient borough of Warwick, the mention of which calls to mind the fierce struggles of the English barons, is chiefly noted for its noble castle, so beautifully



THE PHARMACY, MARKET PLACE, WARWICK.

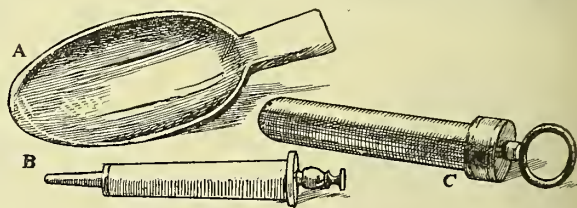
situated on a height overlooking the town. It has also some interest from a pharmaceutical point of view. Mr. Pratt's pharmacy in the Market Place was founded in 1742, and our attention was recently drawn to a number



A GROUP OF PHARMACY-POTS.

of relics of the early days, owned by Mr. Charles Pratt, the present proprietor. A number of pharmacy-pots which

belong to the business came from a local surgery some sixty years ago, that medical practice being traced back to one Johnson, an apothecary, whose widow founded a charity in Warwick in 1732, by which a sum of 6,233*l.* 15*s.* 4*d.* was invested to form a fund for relieving poor persons, communicants of the Church of England. The pharmacy-pots are Bruges ware. We also give a photograph of the shop as it was in 1850, Mr. Pratt's two great-uncles having shops in the High Street at that time. Over the door it states, on a lead plate fastened to the ceiling, "Chas. Reader, licensed dealer in cigars and pepper." He was tenant here in 1770. There is no detailed history of the business available. The cup weights are stamped 1826, and are as serviceable as ever, except that the 120-grain one is missing. The vinegar-measures, pint, half-pint, and quart, are stamped "G. IV.," and are of pewter. Neither vinegar nor cigars are now sold, but these relics remain. A few pounds of pepper is, however, still ground for old customers. Among the other relics are a lot of iron catheters



and bone and pewter male and female syringes. Mr. Pratt sends us some of these, which we illustrate. There is still a demand for male pewter syringes for ships' medicine-chests, but those in the possession of Mr. Pratt are remnants of the age when pewter was the material almost universally employed for surgical appliances. This calls to mind an old bottle-shaped male pewter urinal which a well-known North-country pharmacist keeps in his room as a relic. The small syringe in the illustration is made of bone, while the horn scoop has been in use for over a hundred years. Mr. Henry Pratt, father of Mr. Charles Pratt, dates his apprenticeship back over sixty years; he was in business in 1868, when the Pharmacy Act of that year came into force. Mr. Henry Pratt is a pharmaceutical chemist, and in 1859 won the silver medal in the Herbarium competition. He went to Warwick from Shipston-on-Stour, succeeding Mr. Baly, whose name figures in the first illustration. Mr. Baly's connection with the business dates from 1820. The soldier who can be seen in the photograph is a recruiting sergeant in the old Warwicks, and there is also shown an old "peeler," as policemen at that time were called. The boy in the corner is reminiscent of the old Grammar School. It should be added that the business at the present day is by no means antiquated. On the contrary, there is that blend of ancient and modern which obtains the confidence of customers and makes the business one of the finest in the district. In a recent letter Mr. Pratt informs us that some of the old recipes are still in use, the virtues having been handed down in local families. As an example is mentioned a request received recently and quaintly worded, for two worm-powders made from a recipe in the old laboratory book, which dates back to the first years of the nineteenth century. The recipe referred to is as follows:

Powdered worm-seeds	...	...	gr. xxx.
Iron filings	...	...	5j.
At night.			
Calomel	...	...	gr. ij.
Scammony	...	...	gr. vj.
In the morning.			

THE IMPORTS OF DRUGS AND CHEMICALS into Corunna, Spain, during 1913 amounted to 136 tons, valued at 2,816*l.* against 196 tons, valued at 4,230*l.* in 1912, a decrease of 1,414*l.* The United Kingdom, Belgium, France, and Germany were the principal sources of supply.



Chester Pharmacies

MANY years ago Joseph Ince in the interesting series of notes which he contributed to this journal under the title of "Pharmacalia," grew reminiscent of a visit he had made to Chester. He wrote:

"The quaint old city of Chester, with its mediaeval buildings, its ancient Rows and Roman wall, is a spot which change seems to have forgotten, and where a railway is out of place. Stopping to admire the beauty of the wood-carving of a façade, we saw next door a name on a chemist's shop which we have known these many long years. It is hard to cherish sentiment with a grey sky overhead, and the continuous drizzle of the rain, yet the name belonged to one who was associated with our schooldays at Bloomsbury, when Dr. Redwood, the Square, and pharmacy (ourselves included) were younger than we are now."

Ince referred to G. W. Shrubsole, who was with him at "The Square" in 1847, and his name is in the 1870 list

which, with others, we have compiled from local directories, and which serve as a preface to the following particulars of chemists' businesses now in Chester. We are indebted to Mr. R. Cecil Owen, B.Sc., Secretary of the Local Committee of the British Pharmaceutical Conference, for much of the material upon which these notes are founded. An alphabetical arrangement has been adopted.

BOOTS, CASH CHEMISTS, LTD.

The branch of Boots, Ltd., at 28 Eastgate Row and 24

Eastgate Street, was opened in April 1897. In rebuilding the premises the company were at considerable trouble and expense in harmonising the pharmacy in accordance with the character of the famous Rows in which it is situated. An illustration is given on p. 157.

MR. THOMAS CARTER, PH.C.,

carries on business at the Richmond Pharmacy, Boughton, on the outskirts of the city and at a branch

establishment in Ermine Road, Hoole. The main business was founded in 1860 by Mr. John Guy, who retired in 1892 and is still living in the city. Mr. Carter, who took possession in 1892, was educated at Muter's School of Pharmacy, passed the Minor in 1888 and the Major in 1892. He is a churchwarden and assists in editing the "Parish Magazine." A good-class family and dispensing business is carried on at the Richmond Pharmacy. The premises have been recently renovated and modernised, a handsome shop-front having been put in. The branch business at Hoole was opened some ten years ago by Mr. Carter.

CHEERS & HOPLEY.

This well-known firm is carried on by three partners—Mr. Samuel Cheers, Mr. John Henry Hopley, and Mr.

David Thomas Williams. The business was founded in 1817 by a Mr. Lloyd, who was joined later on by John Grindley, the firm being then Lloyd & Grindley. William Grindley succeeded his father, and in 1891 Messrs. Cheers and Hopley took over the business. Shortly afterwards the old-established business of Bowers Brothers was absorbed. This was the business which belonged to Thomas Bowers, an original member of the Pharmaceutical Society, and the first Local

Secretary for the district. It was his sons who afterwards traded as Bowers Brothers. Mr. Williams, a former apprentice, joined the firm when this old business was absorbed. The premises are situated at The Cross, which marks the site of the High Cross of mediaeval times. Mr. Cheers passed the Minor in 1890, Mr. Hopley in 1889, and Mr. Williams in 1898. Before settling down Mr. Hopley spent some time with the firm of Sinimberghi, Evans & Co., Rome. He is the President

1840.

Blelock, J. C., Bridge St.
Boden, E., Eastgate Row.
Bowers, T., Eastgate and Northgate Streets.
Davies, S., Bridge St. Row.
Hincks, T. R., Northgate St.
Hope, J., Northgate St.
Jones, T., Northgate St.
Kearsley, J., Foregate St.
Lloyd & Grindley, Northgate St.
Massey, J. W., Bridge St.
Maurice, J., Northgate St.
Platt & Son, Foregate St.
Shearing & Co., Bridge St.
Thomas & Son, Bridge St.

1870.

Abel, J. S., Saltney.
Baxter, G., Foregate St.
Blelock & Co., 1 Bridge St.
Boden, W., Eastgate Row.
Bowers Bros., 161 Eastgate Street.
Brierley, G. H., 16 Foregate Street.
Capper, Jas., Foregate St.
Carman, W. W., Frodsham Street.
Davies & Shephard, Bridge Street Row.
Germain, T., St. Anne St.
Grindley, W., 146 Northgate Street.
Guy, J., Tarvin Road.
Higgins, W., 142 Bridge St.
Hincks & Son, Northgate Street.
Hodges, W., Eastgate Row.
Hope, J., 81 Brook St.
Jones, R., 126 Bridge St.
Lewis, E., 9 Egerton St.
Marcham, J., Lower Bridge Street.
Mills, J., Eastgate Row.
Prince, B., 19 Foregate St.
Roberts, R. M., 102 Foregate Street.
Shearing, R., 57 Watergate Street.
Shrubsole, G. W., 126 Northgate Street.
Thomas E., Bridge St. Row.
Williams, Franklin, 42 Brook Street.
Williams, J. E., The Bars and The Eastgate.

1914.

Boots Cash Chemists, Ltd., 24 Eastgate Street.
Carter, T., Ph.C., Boughton and Hoole.
Cheers & Hopley, 6 Northgate Street.
Craine, J. P., 71 Northgate Street.
Davies & Shephard, 27 Bridge Street Row.
Dickinson, D., Hoole.
Donald & Co., 2 Bridge St.
Duplock, W., 59 Bridge St.
Huke, J. W. [R. Cecil Owen], 89 Foregate St.
Leithhead, J. H., 11 Lower Bridge Street.
Milling-Johnson, Ltd., Town Hall Square.
Pearson & Barton, Ltd., 21 Christleton Road.
Roberts, R. R., 100 Foregate Street.
Roberts, W., 73 Brook St.
Simon, J., 4 Eastgate Row and 6 Eastgate St.
Ward, R. M., 87 Brook St.
Wilkes, T. W., 24 Frodsham Street.
Woolman, T., 79 Watergate Street.

of the Chester Pharmacists' Association and Chairman of the Pharmaceutical Committee formed under the National Insurance Act. Mr. Williams acted as Hon. Secretary of the local Association until 1912, when Mr. Cecil Owen took over the duties. There is a branch establishment at Saltney, and until recently there was another branch at Malpas.

MR. THOS. POSTLES CRAINE

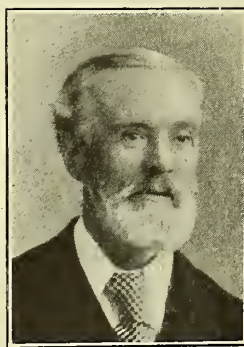
has his shop at 71 Northgate Street, next door to the Fire Station, and within a stone's throw of the city walls and the Northgate. The business was established in 1837 by Thomas R. Hincks, who was succeeded by his son John Wright Hincks, a well-known Cestrian, who for over twenty years was associated with the Chester Volunteer Fire Brigade, and became chief officer, retiring with the rank of captain. He died in 1912, but had given up business since 1897, when he was succeeded by Mr. Archibald Thomson, who for nine years previously had been an assistant with Messrs. Davies & Shephard. Mr. Hincks, the founder, in his opening announcement, referred to himself as a "dispensing chemist, druggist, and tea-dealer," and during Mr. Thomson's *régime* the dispensing connection was greatly extended. Mr. Thomson died in 1909, after a period of ill-health, and he was succeeded by Mr. Craine, the present proprietor. Mr. Craine was born at Ramsay, Isle of Man, in 1833, and apprenticed to the firm of J. W. Huke. After a course at the Liverpool School of Pharmacy he passed the Minor in 1905.

DAVIES & SHEPHEARD.

This is the oldest-established drug-business in Chester. It was founded in the eighteenth century by Benjamin Whittell, who in 1825 took into partnership Samuel Davies, the firm-name becoming Whittell & Davies. Mr. Davies was an original member of the Pharmaceutical Society and was Chairman of the Mechanics' Institute at Chester. The Institute became merged in the Chester Free Library, where to-day may be seen on the walls his portrait in oils. He died in 1857, having traded in his own name for some years, but afterwards being joined by Mr. Thomas Shephard, who became a partner in 1855, the firm being known as Davies & Shephard. Mr. Thomas Shephard was a pioneer in microscopy, and in the early days possessed one of the few microscopes to be found in the city. When the cholera epidemic swept



MR. S. DAVIES.



MR. T. SHEPHEARD.

through the district it fell to his lot to prepare chlorine-water, then used in large quantities as a prophylactic and remedy for the dread disease. Armed with his microscope, he examined milk for bacteria, for pus, and for blood. He was a friend of Charles Kingsley, who with the assistance of Mr. Shephard and others, founded the Chester Society of Natural Science, an organisation providing even to the present day an outlet for the eloquence of those "who are regarded by their business associates as good scientists, and by scientists as excellent business men." On the death of Mr. Davies the ownership of the business devolved on Mr. Shephard, who in 1893 took into partnership his son, Mr. W. F. J. Shephard, Ph.C.,

and himself retired in 1896. Mr. Shephard, jun., was educated at the historic King's School, Chester, founded by Henry VIII., and at Rossall School. After serving an apprenticeship with his father, he took a course at the Pharmaceutical Society's School of Pharmacy, passed the Minor in April 1890, and the Major in October of the same year. Subsequently he spent a year in research work in the Society's laboratory under Professor Dunstan, F.R.S., confirming the identity of theine and caffeine, and preparing also physiologically pure salicylic acid. From 1891 to 1893 he was an assistant with Messrs. Savory & Moore at Lancaster Gate, London, W., and at the end of that engagement returned to Chester to join his father. In 1895 he became a F.C.S., and from 1907 to 1911 was an examiner to the Pharmaceutical Society, being re-elected an examiner in 1913. He was the first chemist-member of the Chester Insurance Committee. Mr. W. F. J. Shephard added to his business some years ago a factory for making and bottling soda-water and other aerated beverages, which has been a successful innovation. Mr. Shephard is Chairman of the Local Committee of the British Pharmaceutical Conference.

MR. W. DAVID DICKINSON.

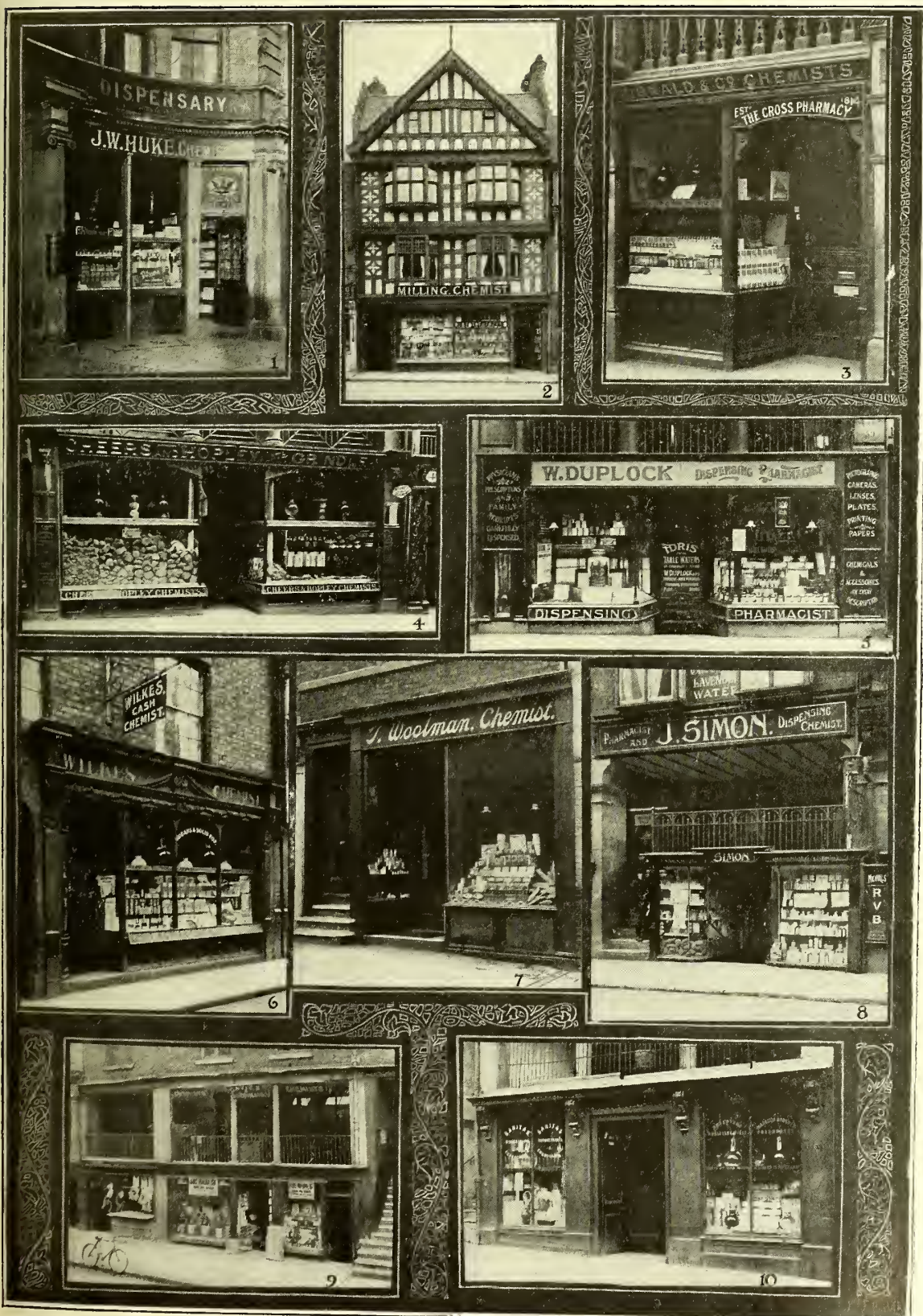
This establishment is at 2 and 4 Faulkner Street, Hoole, and was formerly at No. 7 on the opposite side of the thoroughfare, where the business was founded in 1878 by a chemist named Baker. In 1887 Mr. Dickinson took over the shop, and removed in the same year to his present address, where premises had been specially constructed for the business. The premises are large and have an unusually wide front. Mr. Dickinson also carries on a grocery business, and a post-office was added in 1898. Mr. Dickinson took his qualifying examination in 1880. His limited spare time is given over largely to work connected with the Wesleyan Methodist Connexion. For twenty years he has occupied the position of President or Vice-President of the Wesleyan P.S.A. in Chester, and for a quarter of a century has been a local preacher. Mr. Dickinson has two sons in pharmacy, both qualified: one is a representative of Messrs. Philip Harris & Co. of Birmingham, and the other an assistant at the Leeds College of Pharmacy.

DONALD & Co.

Mr. Andrew Donald, who trades under this name, occupies premises at 2 Bridge Street, which are known as the Cross Pharmacy. The business celebrated its centenary this year, having been founded exactly a century ago by Alexander Young. Some years later it came into the possession of Mr. John C. Blelock, under whose command the business became well known. In August 1885, Mr. Donald, who was trained with Reid & Donald, Perth (of which his brother was partner), came into possession. Besides doing considerable business in dispensing, Mr. Donald makes a speciality of horse-medicines, horses having always provided him with a hobby. Donald's Tonic Powders for Shy Feeders, and similar specialities, find purchasers in many parts of the globe, and Mr. Donald has agents in Paris, Bucharest, Rangoon, Providence (U.S.A.), Melbourne, and Budapest.

MR. WALTER DUPLOCK

carries on business at 59 Bridge Street, near where stood the quaint Lamb Row and St. Bridget's Church, both pulled down to make way for the construction of Grosvenor Street a century ago. The business over a long interval was in the possession of Mr. George Kemp, who did a brisk trade in photographic goods. Some fifteen years ago, when he retired, his place was taken by Mr. Williams, who had been his apprentice. Ill-health, however, compelled him to exchange the counter for an occupation of a more open-air description, and he was succeeded by Mr. Haywood, who in his turn was followed by Mr. Normansell. Mr. Duplock, who succeeded him, shortly after taking possession, modernised the premises and had excellent shop-fronts fitted. Mr. Duplock passed the Minor in 1887, and was an assistant with Messrs. Savory & Moore, London, W. (Since this note was written Mr. Duplock has disposed of the business to Mr. R. W. Dunn.)



CHESTER PHARMACIES.

- (1) Huke's Pharmacy. (2) Milling-Johnson, Ltd. (3) Donald & Co. (4) Cheers & Hopley. (5) W. Duplock. (6) T. W. Wilkes.
 (7) T. Woolman. (8) J. Simon. (9) Davies & Shephard. (10) J. H. Leithhead.

J. W. HUKÉ.

The business carried on under this name by Mr. R. Cecil Owen, B.Sc., is situated at 89 Foregate Street. It was established by Mr. Huké in 1874. Mr. Huké, who was registered as in business at the time of the passing of the Pharmacy Act, 1868, had been previously an assistant with Dr. J. E. Moreton, of Tarvin, a village of historic memory some six miles from Chester. He was a well-known public man, and filled the office of City Sheriff in 1895-96. He gave up business in 1900, but although over eighty years of age is still active and vigorous. Mr. Owen, the present owner, is the energetic Secretary of the Chester Pharmacists' Association and of the Local Committee of the British Pharmaceutical Conference. He passed the Minor in 1905, and is, in addition, a B.Sc. Visitors to the Conference are indebted to him for information regarding the neighbourhood, which has been reprinted from *THE CHEMIST AND DRUGGIST*. Mr. Owen is the son of a chemist and druggist, and served his apprenticeship to Mr. John Simon, Chester. He is peculiar among young pharmacists of the academic yet progressive type in having purposely avoided the Major examination, taking the London University Science course and degree in place of it. This was just what one would expect of him, for he is a man born of accomplishments—a ready writer, nimble in intellect, happy in phrasing, a musician, and has proved himself efficient in most of his extra-pharmaceutical indulgences by taking medals, and things such as the Associateship of the London College of Music.

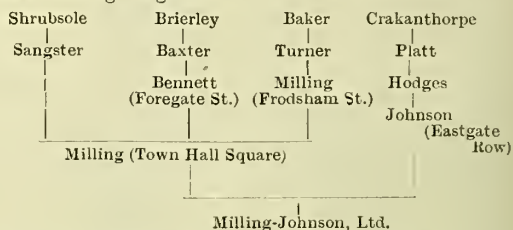
MR. J. H. LEITHEAD

carries on business at 11 Lower Bridge Street, a wide thoroughfare and in former times a favourite residential neighbourhood. The business was founded by John Brodie in 1830, who in 1850 was replaced by Henry Wadsley, who in his turn was succeeded by the present occupier in 1874. Mr. Leithead passed the Modified examination in 1872, and is the "Father" of pharmacy in the city.

MILLING-JOHNSON, LTD.

This company, although only incorporated two years ago, is the successor of several historic drug-businesses. The directors, Mr. John Milling and Mr. Frank Johnson, are both chemists and druggists, and carry on business at Town Hall Square, where are united Mr. Johnson's business in Eastgate Row, Mr. Sangster's business in the Market Square, and Mr. Milling's establishments in Foregate Street and in Frodsham Street. The present premises were originally occupied by George Wm. Shrubsole, who was at "the Square" in 1846-47, Allchin, Langdon Down, T. Greenish, Ince, J. B. Edwards, and Huskisson being fellow-students. The last of the Shrubsoles to occupy the premises was Alfred Shrubsole, who took over command in 1891, and who retired ten years later in favour of Mr. Charles Sangster. The last-named sold the concern in 1908 to Mr. John Milling, one of the present directors. Previously Mr. Milling had taken over a business at 24 Frodsham Street from Mr. John Turner, which had been founded years before by John Baker. To the Frodsham Street shop Mr. Milling came in 1901, and left for his present premises in 1909, taking with him much of the goodwill, including the prescription-books, but selling the rest of the business to Mr. T. W. Wilkes, who began practically therefore *ab initio*. In 1907 Mr. Milling had acquired a business near his Frodsham Street premises and situated in Foregate Street, lately carried on by Mr. Frederick Bennett, which business was founded by John Brierley early in the nineteenth century, was later acquired by Mr. George Baxter (who was in possession for some thirty-five years), passed to Mr. Bennett in 1896 and to Mr. Milling in 1907. Finally, a pharmacy in Eastgate Row, established by J. M. Crakanthorpe about 1830 and carried on afterwards by George Platt as Platt & Son, was taken over by Mr. W. Hodges some twenty years later, who retired in 1901, giving place to his assistant, Mr. Frank Johnson. These Eastgate Row premises were in 1912 pulled down by way of improvements, and the goodwill and prescription-books were transferred to the Town Hall Square, Mr.

Johnson and Mr. Milling forming the limited company referred to. The evolution of the business is best shown in the following diagram:



The present premises rank among the finest in the city, the half-timber façade being thoroughly in keeping with the city's traditions. The interior is also beautifully fitted and planned.

MR. R. RANDALL ROBERTS

has a business at 100 Foregate Street, which was established by his father, the late Mr. R. M. Roberts, in 1869. Mr. Roberts was born in 1872, and studied for the Minor at the Liverpool College of Pharmacy, passing the examination in 1894. He became proprietor of the business when twenty-two years of age. Mr. Roberts believes in being a pharmacist in reality, and not merely in name. Thus he manufactures on the premises every possible galenical. Incidentally an excellent training is afforded to his apprentices, and, as a matter of fact, no pupil of his has yet failed to pass the Minor at the first attempt, and several have passed the Major also. In his father's time a large trade was done in all those goods which specially pertain to agriculture, whereas latterly this branch has been dropped, and a dispensing and counter business has become the main characteristic. In his spare time Mr. Roberts is an advocate of Socialism, and is well known to many prominent English Socialists. In October 1912 Sir Wm. Lever, Bart., and Mr. Roberts were the chief speakers in a debate on co-partnership schemes—Sir William, of course, supporting the latter and Mr. Roberts taking the opposite view. It may also be noted that Mr. Roberts is interested in athletics, and possesses some trophies indicative of his prowess in sport.

MR. WILLIAM ROBERTS

founded his business at 73 Brook Street in June 1891. Educated at Wills & Wootton's School of Pharmacy, he cleared the Minor barrier in 1885. Despite the handicap of indifferent health, Mr. Roberts is to be reckoned among successful pharmacists, having worked up an excellent dispensing connection.

MR. JOHN SIMON

is the happy possessor of a most flourishing business situated at the Cross—that is to say, in Eastgate Row and in Eastgate Street. Chester Rows consist of rows of shops raised above the street, at the height of the first storey (see the illustrated title on p. 153), but set back also so as to provide in front a covered promenade. There are shops on the street level also, in the ordinary way. Mr. Simon has two shops, one in the Row, and the other, immediately below, in the street; he has therefore two distinct chemist's shops, one on the top of the other. The street shop (the lower) was added only some four years ago. The pharmacy above, in the Row, is very old-established, having been founded in 1825 by Edward Boden, who was succeeded by his son, W. Boden. In 1854 the business changed hands, and John Downing Farrer became the proprietor. In ten years he retired, and is still alive and in excellent health, in spite of his ninety years. The late John Mills succeeded Mr. Farrer in 1864. Mr. Mills was a prominent citizen, and was well known as a supporter of local Methodism and (*inter alia*) as a founder and Treasurer of the Chester Society of Natural Science, the friendship of whose founder-in-chief, Charles Kingsley, he claimed. On his death in 1896 Mr. Mills was succeeded by Mr. Simon—who had been his assistant—not only in the business but also in the treasurership of the Natural Science Society.

Complete with doeskin cover.

In Nickel-plated Metal 2.40

Medicine Chests and Cases, 'Tabloid' Brand—

These cases contain within a very small compass comprehensive outfits of fine drugs, in doses of high accuracy ready for immediate dispensing. They provide the best medical equipments for the country practitioner, as well as for explorers, missionaries, planters, etc. They are fitted, according to the purposes for which they are required, with 'Tabloid,' 'Soloid,' and other fine products, B. W. & Co. Hypodermic Syringes, 'Tabloid' Hypodermic products, emergency dressings, etc.

For ordinary use these cases are usually bound in morocco or other fine leathers, but for hard wear or tropical climates, it is or to

and Medicine Case. Measurements:
x 5-1/2 in. Contains 45 phials of
and 'Soloid' Brand products, 12 tubes
Hypodermic products, a B. W. & Co.
eptic Hypodermic Syringe with two
needles, etc.
co or Cowhide 63.50

pend upon the contents selected

otelegrams—"Tabloid, New York"

with the same
the same material

Medicine Chests and Cases, 'Labioid' Brand

These cases are in an extra heavy construction
outside of which is a layer of high strength rubber
incorporated with the top of the case. The
for the purpose of protecting the contents from
physical damage. They are fitted with the purpose of
which is a 'Labioid' brand, 'Labioid' brand, and
other cases, and are fitted with the purpose of
'Labioid' brand, 'Labioid' brand, and other cases, etc.
For other cases, and for other cases, and for other cases, etc.
The cases are in an extra heavy construction, and for other cases, etc.



Mr. Simon served a five-years' apprenticeship at Huntly, N.B., with the late Mr. James McIntosh, and afterwards was an assistant to Messrs. J. Robertson & Co., of George Street, Edinburgh. He qualified in 1891, and went to Chester the same year. Mr. Simon has one of the finest dispensing connections in the county, his *clientèle* including many famous names.

MR. R. M. H. WARD

succeeded Mr. G. H. Moss at 87 Brook Street some nine months ago. Mr. Moss founded the business in 1902 at 62, on the opposite side of the street. The present premises were at that time occupied by Pearson & Barton, Ltd. Part of this company's business was taken over by Mr. Moss, who at once removed his connection to the new premises across the road. Last year Mr. Moss took his departure from Chester and opened the Eaton Pharmacy at Little Sutton—a small town in the Wirral Peninsula—where he finds country life and all its pleasant associations a welcome change from the conditions in a city. Mr. Ward was prepared for the Minor examination at Mr. Pilkington Sargeant's School of Pharmacy, at Leeds, and in 1902 successfully negotiated the examination.

MR. T. W. WILKES

may be said to have established his own business, in part at least, at 24 Frodsham Street, as explained in connection with Milling-Johnson, Ltd. Here was Mr. Milling's first business, and in removing to larger premises in the Town Hall Square he took with him much of the goodwill of the Frodsham Street shop. Mr. Wilkes quali-

fied in 1907, and has developed the photographic sideline.

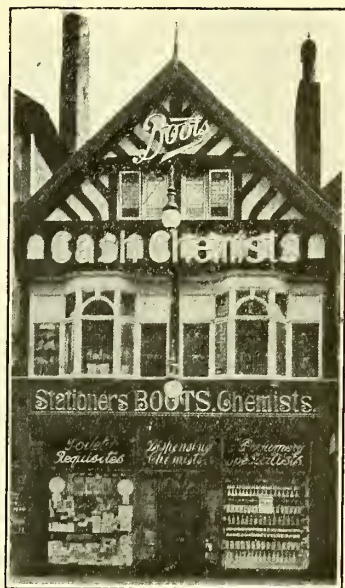
MR. THOMAS WOOLMAN.

This business was till last year at 77 Watergate Street, when Mr. Woolman made the unusual move to premises next door at No. 79. The business was founded in the early years of the nineteenth century by an apothecary of the name of Shearing, who was succeeded by his son, Robert Shearing, and Mr. Wilkinson, who, in his turn, was succeeded by Mr. J. W. Hincks, of whom we have already spoken. Mr. Hincks "ran" the shop as a branch of his Northgate Street business. In 1891 Mr. Hincks gave up the branch, finding a purchaser in the late Mr. J. H. Thomas. The last-named died in 1897, and the establishment was carried on by his widow for eleven years. Then, in 1908, it was acquired by the present proprietor, who last year made the change of surroundings already indicated. Mr. Woolman put the Minor behind him in 1895, after a course of instruction at Will's School of Pharmacy. His hours of leisure are devoted to photography and to microscopic work.

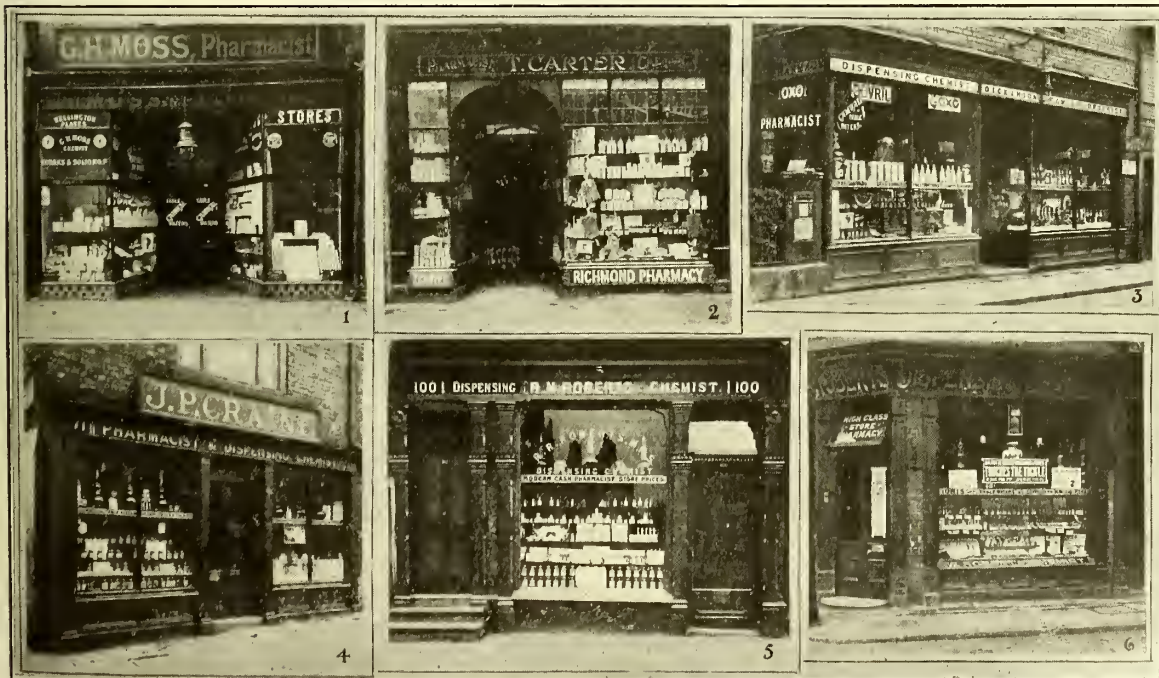
We conclude this article by quoting the words of the late Mr. W. E. Gladstone, in 1896, who said :

"The Chemists in Chester are very good and skilful,"

and we believe that closer acquaintance convinces everyone, not only of the truth of this remark, but that Chester has justified this week her early association with corporate pharmacy, as testified by her having had three original members of the Society founded in 1841—George Allen, Thomas Bowers, and Samuel Davies.



28 EASTGATE ROW.



CHESTER PHARMACIES.

(1) R. M. H. Ward. (2) T. Carter. (3) W. D. Dickinson. (4) J. P. Craine. (5) R. Randall Roberts. (6) W. Roberts.

THE PRESIDENT AND HIS PHARMACY.

An Appreciation of Mr. E. H. Farr, Ph.C., F.C.S., President of the British Pharmaceutical Conference.

IT is to the credit of the Conference that it begins its second half-century with "a country chemist" as its President. Mr. E. H. Farr is that in the common acceptance of the term, with the something more in the matter of pharmaceutical achievement which has given him distinction among his fellows, yet it has been done while carrying on a country chemist's business. A few who have occupied the presidential chair have been similarly situated (not more than one in ten), Corder, Wright, and Tocher being, perhaps, those whose businesses have been most conspicuously of that all-round nature—retail and dispensing—which exists only in country towns and requires the owner to be less or more at the counter or within call of it. Mr. Farr makes no pretensions in this regard; his business at Uckfield is of the kind that requires the proprietor's personal attention, and he gives it whether the customer is a squire or a tiller of the soil. He finds pleasure as well as profit in his shop, and has little leisure for anything else than his business, which is a good going one that needs a lot of attention.

Uckfield is not a Sleepy Hollow; literally, it is a hilly village in East Sussex, through which passes much traffic to and from Brighton. There, towards the end of the eighteenth century, two maiden ladies carried on the drug-business which was continued by others until in 1887 Mr. Farr bought it from Mr. B. Salter. The shop is in a house built at least two centuries ago, and it was used as a country inn (The Maiden's Head) until that hostelry was removed further down the High Street. When Mr. Farr bought the business the pharmacy, with store-rooms, occupied the whole of the ground floor, but some years ago he purchased the property, and made two shops of the ground floor, letting one part to an antique-furniture dealer, who has recently turned to effective use a generous kitchen fireplace about 10 ft. wide, that makes a fine background to a dining-room suite of old-oak furniture. The house has Adams doorways; the parlour of the pharmacy has an Adams fireplace, and there are others in the house well preserved. Behind is an old-world garden, extending to two acres. In it are fine ferns, a wealth of roses, fine herbaceous plants, some medicinals, beds of strawberries, hedges of raspberries, a dell, and an arbour, the last-named a quiet retreat on hot days, and an ideal study.

At the time of our visit the apple and pear trees, and others of the genus, were still in bloom, and there was promise of much floral wealth in the months to come. Mr. Farr loves his garden and enjoys it to the full. Flower-lovers find him one of themselves. He can give points to rose-growers, and he knows the botany of the

undulating country around, gathers the medicinal plants and herbs of the district in their due season, his plucking tempered with exceptional knowledge of their phases of activity. Verily, a country chemist, but an exceptional pharmacist.

Mr. Farr is a native of Herefordshire, was educated at the Monmouth Grammar School, and passed the Preliminary examination in 1878. He was apprenticed in 1878 to Mr. S. B. Turney, Ph.C., Plymouth, and during his apprenticeship attended the science classes in the town, gaining, among other honours, the Queen's Prize for Advanced Chemistry in 1880.

Botany and ornithology were then his favourite nature studies. A monument to his work in ornithology is preserved in fine collections of eggs and stuffed birds. Before his apprenticeship was finished he had made a good herbarium of British plants found near Plymouth, and sent it in for the Pharmaceutical Society's herbarium competition. It was awarded a certificate of honour. Twenty-six years later his elder son, Mr. Francis E. Farr, now with Messrs. Jolley & Co., pharmacists, Mayfair, also won the certificate with plants gathered in the Uckfield district. After his apprenticeship, Mr. Farr went to Torquay for some time, until he entered the School of Pharmacy in October 1884 for the full year's course. He did well, taking the highest places in the Minor and Major courses of botany and materia medica (bronze and silver medals) and the silver medal for the session course in practical chemistry. The Minor and Major examinations were successfully negotiated; in the Pereira Medal examination he was next to Mr. J. E.

Saul, and obtained the Society's bronze medal. When these prizes were presented to him at the first ordinary meeting of the 1885-86 session there was added the Peter Squire Prize, which was founded by Mr. Balmanno Squire in honour of his father to promote practical botany and those studies to which Mr. Peter Squire especially devoted his attention. Professor Bentley and Mr. Octavius Corder set the examination-paper and adjudicated upon the papers by fourteen candidates. Professor Bentley, in announcing the award, remarked that Mr. Farr was "eminently worthy of the distinction." This was on October 8, 1885. By this time Mr. Farr was working in the laboratories of Messrs. Wright, Layman & Umney, 50 Southwark Street, London, where began his friendship with Mr. J. Oldham Braithwaite, who then had charge of the analytical work. He had already given evidence of powers of accurate observation. At the beginning of the year he read a paper on "Teratology" to the School of Pharmacy Students' Association, the plants which he showed and described being *Scabiosa*



EDWARD HENRY FARR.

Columbaria, *Lychnis diurna*, *Primula vulgaris*, *Asplenium*, *Adiantum-nigrum*, *Anchusa sempervirens*, *Ullium vineale*, *Glyceria fluitans*, *Vinca minor*, *Bouvardia* sp., and *Primula sinensis*. In the following session "Variation and Methods of Development of Leaves as Protective against Radiation" was the subject of a



THE LABORATORY, UCKFIELD.

report on botany to the Association, and another was on "Recent Contributions to the Study of Certain Leaf Functions." He continued to take an active part in the Students' Association's work, and at the same time he was participating in the remarkable meetings of the Chemists' Assistants' Association during the presidential year of the young pharmacist who has become Sir Richard Winfrey, M.P., and was elected a member of the Council in June 1886, among his fellow-members being F. C. J. Bird, T. S. Dymond, J. E. Saul, W. R. Dodd, J. F. Burnett, R. Winfrey, A. J. Phillips, W. B. Botham, and A. A. Deck. He and Mr. Botham were appointed Hon. Secretaries for the 1886-87 session, succeeding Mr. W. Rushton and Mr. J. E. Saul. The President was Mr. H. H. Millhouse, with Messrs. Burnett and Dymond as Vice-Presidents, and Mr. W. R. Dodd as Hon. Treasurer. These names indicate the potentialities of the Association at that time; the members did good work, but what lingers largest in the



A DELL IN THE GARDEN.

memory is the magnificence of the debates. Winfrey was regarded as a firebrand by the pharmaceutical fathers, and there were other speakers in the Association who were adept in turning pharmaceutical affairs into politics. The room at 103 Great Russell Street was often packed to overflowing, and it needed neither coffee nor pipes to

stimulate discussion. Mr. Farr contributed a paper on "Vegetable Metamorphosis" to the 1885-86 session (January 1886), and in the following session (November 1887) one on "Some Abnormal Flowers." At the latter meeting eleven papers were read! The authors were Messrs. T. S. Dymond, F. McDiarmid, F. C. J. Bird, W. Ralph Dodd, E. J. Millard, W. Rushton, F. V. Butterfield, A. Wybrant, W. G. Blackham, W. Baxter, jun., and E. H. Farr. They were followed by Mr. Saul with observations on "Dispensing Difficulties in Africa," and Mr. Joseph Ince told the meeting something about algin, then but recently introduced by Mr. E. C. C. Stanford, and regarded as an emulsant.

It was in this atmosphere that Mr. Farr's post-graduate days were spent. Whatever his aspirations may have been, and strong though the botanical bent was, his contact with commercial life directed his attention to the questions in pharmacy more related to chemistry than botany. This we find from the first B.P.C. communication with which his name is associated, a "Note on the Chemical Examination of the Fruits of *Daphnidium Cubeba*," by Mr. J. O. Braithwaite and him, read at the Birmingham meeting of the Conference in 1886. It was not until the Leeds meeting in 1890 that he again appeared as a contributor to the Conference; then his "Notes on the Alkaloidal Tinctures" was read by Mr. Naylor, after Mr. Robert Wright had read one on "The



A HERBACEOUS HEDGE.

Solvent Action of Alcohol of Different Degrees of Strengths on Some of the Drugs Used in Making Pharmacopœial Tinctures." After the meeting the present writer, in conversation with Mr. Wright, suggested that he should collaborate with Mr. Farr; this was arranged, the result being a series of over forty papers written by them jointly between 1890 and 1898. A chronological list of their papers was published in *THE CHEMIST AND DRUGGIST*, August 15, 1908, on the occasion of Mr. Wright's presidency of the Conference. The collaboration was unique in the annals of British pharmaceutical research. The work was chiefly in relation to the processes involved in the preparation of such galenicals as tinctures and extracts, plus the application of those methods of assay which are essential in the alkaloidal standardisation of the preparations. It was essentially business work, done by both men independently while they were carrying on their businesses, and amid disadvantages including no personal knowledge of either. It was some years after the results had begun to be published before they met each other in the flesh, and then the names of Farr and Wright had become indissolubly associated in pharmaceutical literature—indissolubly in so far as their achievement stands as an important factor in the evolution of modern pharmacopœial methods and standards.

Mr. Farr is very fond of country walks. Every Whitsuntide since he was in Southwark Mr. J. O. Braithwaite and he have spent the time together exploring the countryside near Uckfield, botanising and collecting

specimens of the flora and fauna of the district. It was in such walks as these that Mr. Farr got to know where medicinal plants are to be found in quantity, and when he and Mr. Wright came to conium in their series of alkaloidal drugs, it was found that some investigation of the biogenesis of coniine was necessary. This Messrs. Farr and Wright undertook, and the result was a note to the Conference in 1893 on the alkaloidal strength of hemlock-fruit. This involved the determination of the alkaloidal content of the immature, mature, and ripe fruits, by which it was determined that a rapid falling-away in alkaloid occurs as the fruit begins to ripen. Apparently the alkaloid is an intermediary product in the formation of the proteid required by the seed of the plant for future germination. This opened up a line of work and thought which Mr. Farr has continued during the past two decades, so that he has been able to follow with exceptional familiarity with the subject the developments in knowledge of plant-products, their origin, and uses, which physiologists have made during the past two decades.

An interesting fact in connection with his hemlock researches is the production of coniine from spent tincture-marks. After he had extracted from the fruit all the alkaloid that it contained, he put it aside and allowed mould to grow upon it. Then it was distilled with caustic soda, and a second crop of coniine hydrochloride was obtained from it, thus proving that in the biological



MRS. ERNEST FARR.

breaking-up of the proteid matter a small proportion of coniine was produced. We inspected a specimen of the coniine hydrochloride so obtained.

The Conference showed its appreciation of Mr. Farr's services to pharmacy by electing him a member of the Executive Committee in 1894. The Pharmaceutical Council first engaged his services as an examiner in 1897, his old C.A.A. colleague, Mr. A. J. Phillips, being appointed a member of the Board of Examiners for England and Wales at the same time, and Mr. J. E. Saul was also reappointed. Young pharmacists who read this should note how the names of the good men in pharmacy come into juxtaposition repeatedly throughout life. The "Square" has the habit of catching them young, proving their value, and getting good service out of them in their special province or in any other that they expand into. Mr. Farr is still an examiner, usually in botany, but his practical experience enables him to take up any subject.

He may be a councillor some day, for amid all his business and scientific work he has not forgotten that he is a citizen of no mean country, and he serves on the Education Committee of the district, being respected for

his sound judgment and knowledge of affairs. He knows when to be silent, but when speech is necessary he speaks forcibly and to the point, with the courage of his convictions behind it all. He has been singularly fortunate in having an excellent woman as his wife, and they have two devoted sons: the elder is the pharmacist, and the second, after a distinguished career at the Bluecoat School (into which he went by examination) entered a solicitor's office, has qualified as a solicitor, and is now completing his studies for LL.B. London. Mrs. Farr first made the acquaintance of the Conference at Bournemouth in 1895, and has not attended a meeting since until this week. We venture to say that it is only with such wives as she that country chemists can do the kind of work for pharmacy that her husband has done.

A Chemist-Antiquary.

IN "The Journal of Roman Studies," Professor Haverfield, of Oxford, remarks upon the little that has been done in regard to Roman London by specialists, and adds, "A university is scattered all over London. Classical schools abound in it. But until 1909 the best book, and indeed the only good book, on Roman London was written by a druggist." This was Charles Roach Smith (1807-90), who was born in the Isle of Wight, and was apprenticed to Mr. Follett, a chemist of Chichester, in 1822, after turning away first from the law and then from the army. About six years later Smith joined the staff of Messrs. Wilson, Ashmore & Co., Snow Hill, London, and, after some service with this firm, started business on his own account, first at the corner of Founders' Court, Lothbury, and then (1840-55) at 5 Liverpool Street, Finsbury Circus. For many years he diligently collected and recorded Roman remains in London, taking advantage of the opportunities offered by excavations of the soil for new buildings and by the dredging of the Thames. In this way he formed a large collection of objects, of which he published a catalogue in 1854, and acquired a reputation as the leading authority on Roman London, which he was really the first to investigate in a systematic way. His collection is now in the British Museum. It was offered unsuccessfully to the Museum in 1855 for 3,000*l.*, but was taken over in the next year at the price of 2,000*l.*, and formed the beginning of the present collection of Romano-British antiquities. Smith was a member of many learned societies, and often wrote for their Journals, besides contributing to "The Athenæum" and writing monthly "Antiquarian Notes" in the "Gentleman's Magazine." Some of his previously published articles were included in his "Collectanea Antiqua" (seven volumes, 1848-80), a work which deals with Roman remains not only in different parts of England but in France and Italy. Smith's antiquarian activities were not confined to London, but it was in that special field that he did the greatest service. The work to which Professor Haverfield refers is his quarto "Illustrations of Roman London," published in 1859, which the Professor pronounces to have been for fifty years the one good book on the subject, till it was challenged by the first volume of the "Victoria History of London." In July 1890 the Society of Antiquaries, of which Smith was a member, presented him with a silver medal and the sum of a hundred guineas. The Society also has in its possession a marble medallion portrait of him by G. Fontana. He died in August 1890, at Strood, Rochester, to which place he had retired in 1855. In view of his great antiquarian activities, we need not perhaps be surprised when we are told that by that time his drug-business had dwindled. "The Athenæum" in an obituary notice characterised him as the most courteous of men, and most liberal in imparting knowledge to others. Professor Haverfield's judgment is that "he was a better scholar and historian than most antiquaries, but his main interest lay in the more definitely archaeological subjects of coins, pottery, glass, and articles of dress (he has several pages on old Roman boots)."

British Pharmaceutical Conference



THE CATHEDRAL, CHESTER.

FIFTY-FIRST
ANNUAL MEETING.
CHESTER, JULY 20-25

President: Edward Henry Farr, Ph.C.F.C.S.

THE auspices under which the Conference begins the second half-century of its existence are distinctly favourable. It will be remembered that last year was the Jubilee meeting, and it is interesting to recall that the Conference has been held in thirty-one cities and towns of the United Kingdom—twenty-three in England, four in Scotland, two in Ireland, and two in Wales. The list is so interesting that we give it in tabular form, with the years when the meetings were held in the various cities.

Aberdeen, '85, '08
Bath, '64, '88
Belfast, '98
Birmingham, '65, '86, '06
Bournemouth, '95
Bradford, '73
Brighton, '72, '05
Bristol, '75, '03
Cambridge, '10
Cardiff, '91
Dublin, '78, '01
Dundee, '67, '02
Edinburgh, '71, '92, '12
Exeter, '69
Glasgow, '76, '97
Hastings, '84

Leeds, '90
Liverpool, '70, '96
London, '74, '00, '13
Manchester, '87, '07
Newcastle, '63, '89, '09
Norwich, '68
Nottingham, '66, '93
Oxford, '94
Plymouth, '77, '99
Portsmouth, '11
Sheffield, '79, '04
Southampton, '82
Southport, '83
Swansea, '80
York, '81

The stimulating effect on local pharmacy of a visit of the British Pharmaceutical Conference is well recognised, so that it is a good thing for pharmacy when new ground is opened up. This year the meeting is held for the first time at Chester, although it will be remembered that during the time of the Liverpool meeting in 1896 the members had an opportunity of visiting some of the ground to be covered this year. In the series of articles which have appeared in THE CHEMIST AND DRUGGIST the features of Chester have been described, and there is reason to believe that the excellent response which the Local Committee have experienced to their invitation to British pharmacists is due to the attractions of the delightful city, famed throughout the world for its Roman remains. It would be a mistake, however, to suppose that Chester's fame rests on no other basis. It is a city of to-day also, and, as shown in the preceding article on Chester pharmacies, the reputation of the practitioners of pharmacy is second to none in the United Kingdom. It is appropriate to recall here that some sixty years ago there was unearthed in Northgate Street part of an altar which had been dedicated to an unknown god by "Her-mogenes, a physician." Nothing further is known of Hermogenes, but it may no doubt be correctly surmised that he was with the Roman Legion at Chester in the early years of the Christian era, and he was probably accompanied by his dispenser, as one can hardly imagine

so stately a personage making up boluses with his own dignified fingers. There was also in the seventeenth century a Guild of Barber-Surgeons, of whom it is definitely recorded that they made up pills and ointments, as well as performed minor surgery. It may also be recalled that one of the most celebrated physicians who ever practised in Chester, John Haygarth, was the author, in 1810, of a "Synopsis Pharmacopœiæ Londinensis." It was he who undertook to expose the fallacy of Perkin's metallic tractors, which attained an immense vogue at the end of the eighteenth century. He did this by employing wooden imitations, painted to resemble exactly the genuine tractors, and the patients recovered just as quickly.

We give in the pages that follow an account of the proceedings at Chester, which began on Monday evening,

July 20, by a reception in the Town Hall. During the evening visitors had the advantage of listening to lectures by Professor R. Newstead, F.R.S., formerly Curator at the Museum, who prepared the magnificent collection of stuffed birds in the Museum, and who is an authority on the origin of the Chester Rows. The true explanation of the Rows seems to be that they are due to a consideration of the comparative levels of the street in front and at the back of the houses. The

former is practically on the rock, whilst the latter is "made ground," or, rather, accumulated rubbish at the level of the Rows. It can easily be understood, said Professor Newstead on Monday night, that the ingenious Cestrian of the period accordingly conceived the brilliant idea of having a double row of shops with a covered promenade to give access to the upper. We give here the portrait of the Mayor of Chester, who, with Mrs. J. M. Frost, received the guests at the Town Hall. The scientific proceedings at Chester began on Tuesday morning with a formal reception and the President's address.

We first print Mr. Farr's address (p. 162), then follow it with the papers (which we have digested with care), after which our special report of the proceedings is printed, and notes which we entitle "The Pleasantries."



THE MAYOR OF CHESTER,
Mr. J. M. Frost.

RECENT WORK ON PLANT-PRODUCTS.

A Presidential Address to the British Pharmaceutical Conference.

By E. H. Farr, F.C.S.

IN considering what should be the subject of my address to this meeting of the British Pharmaceutical Conference I finally decided that some reference to recent work on plant-products might be of interest to the members present. It may be that in my choice of subject I have allowed undue weight to my own personal interests; if that be the case, I hope you will pardon me, but following so long a list of distinguished pharmacists who have occupied this chair, I have found the choice of a suitable subject to be a matter of some difficulty.

During the past fifteen years an immense amount of work has been devoted to the study of the chemistry of plants and their products, as used in commerce, the arts, and medicine. It is not my intention on the present occasion to discuss the general question, but to confine my remarks to portions of the work having more or less bearing on various substances connected with pharmacy. A great advance has been made in the direction of establishing the relationship existing between allied substances found in the same or different plants, ascertaining their chemical constitution and decomposition-products, and thus making practicable a considerable degree of classification, depending on the presence of certain chemical groupings common to the members of certain classes. The physical constants and general reactions of an enormous number of compounds have been recorded, and the existence of these records very considerably facilitates the work of identification of the ultimate products of plant-analysis.

In this connection a tribute is due to the Wellcome Chemical Research Laboratories, where our distinguished member Dr. Power and his co-workers prosecute their researches, their contributions to the subject having been very numerous and highly important. In this country the bulk of the work has been done in the laboratories attached to various industrial undertakings and in educational institutions, the private worker seldom having the opportunity or time to devote to purely scientific work.

In looking through the pages of the "British Pharmaceutical Codex" in connection with the chemistry of drugs one cannot fail to be struck with the difference between the constituents as therein recorded, compared with those to be found in works on *materia medica* published twenty years or less ago; and the successive issues of our own "Year-book of Pharmacy" teem with abstracts recording new constituents not hitherto isolated. While the more important and best-known constituents remain, a number of subsidiary ones have been identified, and in many cases tested physiologically, the whole tending to a more accurate knowledge of the relative action and selective use of a preparation or constituent for special purposes. It is to be feared that the pharmaceutical student of the future will find it by no means easy to keep pace with the innumerable investigations recorded in this and other countries, to say nothing of the knowledge he will be expected to possess of the host of synthetic products coming into use each successive year, though the stream of the latter now tends to flow more slowly.

THE ALKALOIDS.

In point of purely pharmaceutical importance the alkaloids may be taken to rank first. According to Pictet, they are produced in the plant in two successive stages, involving the breakdown of complex nitrogenous substances, such as protein or chlorophyll, with the production of relatively simple basic substances; these simple basic substances, by condensation or combination with other substances found in plants, form the complex alkaloidal molecule. He is further of opinion that the synthesis takes place by stages from amino and hydroxyl groups through methylation by formaldehyde. Pictet

suggests that the secretion of alkaloids by plants is due to the inability of such plants to get rid of their nitrogenous products of metabolism by other means, so they convert them into alkaloids, which are not toxic to the plants.

It is possible that this view is somewhat restricted. For instance, in the case of hemlock, certain facts observed by myself in conjunction with Mr. Wright seem to indicate that the conine present may take part in the formation of the proteid reserve food found in the fruit. The amount of alkaloid found in the root, stem, and leaves is small, while in the fruit it is considerable during the period when the fruit is forming its reserve material, reaching as much as 3 per cent. or even more. When the fruit has finished forming its reserve and ripens the proportion of alkaloid is found to become less, not greater, until it falls to less than 1 per cent. in the ripe fruit. Moreover, the proportion of alkaloid to total nitrogen gradually diminishes as the fruit develops. If the alkaloid were a by-product in the production of proteid it might be expected to retain a fairly constant ratio, and not become a diminishing one.

CLASSIFICATION OF THE ALKALOIDS.

From a chemical point of view the alkaloids generally have been arranged into five groups, depending on the structure of the nucleus upon which their molecules are built up. There are, however, many whose constitution is as yet unknown, and the quite recent discovery by Tutin and Clewer of a new gluco-alkaloid, solangustine, would appear to require a special class containing those alkaloids which, in addition to being alkaloidal, are also glucosides. Solanine is a member of this type, which forms a very interesting link between the alkaloids and the glucosides. The five groups into which the alkaloids have been arranged are as follows:

1. Pyridine alkaloids, including conine, arecoline, piperine, and nicotine, etc.
2. Pyrrolidine alkaloids. Hygrine from coca and stachydine from citrus-leaves, etc.
3. Tropane alkaloids. Atropine, hyoscyne, hyoscyamine, cocaine, pelletierine, and cytisine belong to this group.
4. Quinoline alkaloids include quinine, cinchonidine, strychnine, brucine, curarine, etc.
5. Isoquinoline alkaloids, of which group hydrastine, berberine, morphine, codeine, narcotine, emetine, cephaeline, and psychotrine are members.

A considerable amount of experimental work has been done in the culture of drugs with a special view to increase the proportion of alkaloid or other special constituents on which their use depends. A few years since Ransom recorded a series of experiments on belladonna, using a variety of special manures, and more recently, in the United States, much experimental work has been undertaken by the Department of Agriculture. Ciamician and Ravenna recorded a number of experiments with certain chemicals showing that in many cases special plants were able to assimilate them and convert them into alkaloid. Green tobacco-plants containing 0.15 per cent. of nicotine after treatment with pyridine tartrate were found to contain 0.22 per cent. of alkaloid, while treatment with asparagine increased the yield to 0.25 per cent., and benzoic acid and quinol to 0.4 per cent. Datura-plants treated with pyridine showed a large increase in alkaloidal content. These results, while possessing great interest from a scientific point of view, are possibly not of much commercial value owing to the cost of the chemicals used, for it is a fact that alkaloidal value does not always regulate the price commanded on the market.

CARBOHYDRATES.

As many of the carbohydrates find their place in the pharmacy some reference to them here will not be out

place. *Formation*—Loew, by shaking a 4-per-cent. solution of formaldehyde repeatedly for half an hour with excess of lime-water, then filtering and setting aside for some days until the odour of formaldehyde had disappeared, obtained a crude mixture of sugars called formose, from which true reducing hexose sugars have been isolated. H. and A. Euler have shown that when a 2-per-cent. solution of formaldehyde is heated for some hours with calcium carbonate, a pentose sugar, rabino-ketose, is produced. Fenton, in 1907, found that in presence of magnesium, which is present in chlorophyll, probably in a colloidal state, formaldehyde may be obtained from a solution of CO_2 . Curtius and Franzen, in 1912, proved the presence of formaldehyde in the distillate from hornbeam-leaves by oxidising it to formic acid, etc. Pollacci concluded from a series of observations that formaldehyde is of constant occurrence in green leaves, and is formed by the reduction of CO_2 by hydrogen, which is given off by the plant, formaldehyde, water, and oxygen being the products. According to Friedel, the process takes place through the agency of an enzyme, which he obtained from spinach-leaves by extraction with glycerin. Usher and Priestly (1906) found that normally the photolysis of CO_2 and H_2O leads to the formation of H_2O_2 and HCHO , though under certain conditions formic acid may be formed. The H_2O_2 is decomposed by an enzyme in the plant giving off O , and the formaldehyde is condensed by the protoplasm into carbohydrate. If the formaldehyde be not used up rapidly it poisons the enzyme, so that the H_2O_2 is not decomposed, in which case it will destroy the chlorophyll. Among the sugars found in leaves the chief are cane sugar, maltose, dextrose, and levulose.

FATS AND OILS.

A very considerable increase in our knowledge of the fats and oils has resulted from the work of recent years. In the plants they appear to be formed from the carbohydrates, which are found to decrease in quantity with the increase of oil-content. They are deposited chiefly in the seeds as reserve food. When such seeds germinate the oil is split up by the ferment lipase, becoming available for the nutrition of the young plant. The Cere du Sablon found in the resting seed of ricinus 9 per cent. of oil and 4 per cent. of sugar, while in the seedlings 4 cm. high the oil had fallen to 11 per cent. and the sugar risen to 14 per cent. Similar results were obtained in the case of rape, hemp, poppy, almond, and walnut. Green and Jackson obtained similar results with ricinus. While a close relationship has thus been shown to exist between the carbohydrates and the oils, the exact way in which they are connected has not yet been discovered.

THE GLUCOSIDES.

Of paramount importance in the plant economy, a large number of these bodies are found among our list of remedial agents, and demand more than a passing notice. In the main the glucosides are complex compounds consisting of a combination of a sugar, generally glucose, with usually an aromatic body. Under the influence of an enzyme they split up into the sugar and other bodies, the sugar being available for plant-food. Each glucoside may have a particular enzyme associated with it, but certain enzymes have the power of splitting up several distinct glucosides. "Emulsin" in particular, a complex mixture of enzymes, has a very wide range of activity in that direction, a property utilised in the test for glucosides devised by M. Bourquelot, and having a wide application. The expressed juice of a given plant is tested as to its reducing action on Fehling's solution and its optical properties, then digested for a time with emulsin, the mixture being kept warm. After an interval the action on Fehling's solution and optical properties are again tested, when the difference indicates the amount of glucoside present. This test, while of great value, has its limitations, in that certain non-glucosidal bodies will reduce Fehling's solution, and some glucosides may reduce it without previous hydrolysis.

In some cases several enzymes may take part in the hydrolysis of a particular glucoside. With the complex emulsin, for instance, the hydrolysis of amygdalin takes place in three stages:

1. Amygdalase resolves amygdalin into amygdalic nitrile glucoside and one molecule of glucose.
2. Beta-glucosidase hydrolyses the amygdalic nitrile glucoside into amygdalic nitrile and glucose.
3. *d*-Oxynitrilase decomposes the amygdalic nitrile into benzaldehyde and HCN .

A matter of great interest and very considerable importance in connection with glucosides and their enzymes is the discovery that the action of the enzyme is reversible. While it has long been known that enzymes would split up glucosides, the fact that they were also the active agents in building up the same bodies has only been recently proved without doubt by Bourquelot and his fellow-workers, though as far back as 1898 A. Croft Hill, an English chemist, obtained evidence of such action when acting on glucose and maltose solutions with the ferment maltase. The alteration in reducing power on Fehling's solution and the rotation figures proved that some such action had taken place, but Croft Hill failed to isolate and prove the precise composition of the products formed, and it remained for Bourquelot to prove the point finally. He and his fellow-workers have already been successful in preparing by biochemical action a series of glucosides in which the glucose was combined with various alcohol radicles, etc.—methyl, ethyl, allyl, geranyl, benzyl, and cinnamyl among others, and the list is by no means closed, as frequent additions to it are constantly being made by these indefatigable workers. The synthesis of geranyl-glucoside suggested a search for that compound in certain plants, a number of which owe their aroma to geraniol. The French authors found in *Pelargonium odoratissimum* a geraniol glucoside hydrolysable by emulsin, geranyl-glucoside. A further point of interest in Bourquelot's researches was the discovery of a new class of glucosides, not hitherto found existing in Nature, possibly because not specially searched for. He designated these as alpha-glucosides to distinguish them from their isomers, the beta-glucosides. The alpha-glucosides are synthesised by alpha-glucosidase from bottom yeast, the beta ones by emulsin. The former are dextrorotatory, the latter laevorotatory. The synthesising or hydrolysing action of a particular ferment depends apparently on the relative proportions of the constituent products present in a given solution, the balance constantly moving in one direction or other, there being, however, a state of equilibrium when action ceases. If glucose and the other constituents are present in suitable proportions, then synthesis of the glucoside takes place, but if the glucose is required, and is removed from the cell for use elsewhere, then the glucoside is hydrolysed and its sugar becomes available for plant use. An illustration of this kind of action occurs in the leaves of plants. During bright daylight, when sugars are formed faster than the plant can remove them, a considerable deposit of starch is formed in the cells. When the formation of sugar stops from absence of light, the latter product being conveyed away from the leaves, the starch is again hydrolysed, and in turn conveyed to the parts where it may be required for present use or for storage, as the case may be.

In the main the glucosides may be regarded in the light of reserve food-material for the use of the plants containing them. In the willow, for instance, salicin is formed day by day, and at night is split up by the enzyme salicase into sugar and saligenin, and in some cases saligenin is further reduced to catechol by saliginase. The glucose is transferred as required by the plant, and the saligenin remains behind, to be reconverted next day into salicin by combination with fresh glucose—that is to say, provided that the latter is being produced by the leaves faster than it can be utilised by the plant. The process stops in the autumn, when the proportion of salicin in willow-barks reaches its maximum. In the early spring flowering and fruit-

ing rapidly use up the reserve, taking place as they do before the leaves are produced to manufacture fresh material. These facts naturally have a considerable bearing on the time for collecting willow-bark.

While the importance of the glucosides in the processes of plant-life is well recognised, the full import of the dual action of the enzymes in connection with them has yet to be fully realised. It may well happen in the perhaps not distant future that the biological synthesis of many of our choicest perfume bodies may become feasible. Again, among the synthetic glucosides there are great possibilities in the way of the production of remedial agents of great medicinal value, and I fully anticipate that in the future the glucosides will occupy an increasingly important position as medicaments.

THE ENZYMES.

The researches of recent years have proved the existence of a very large number of diverse enzymes in plants, over 120 being known, and, further, that they are very widely distributed. The number of distinct enzymes which a single plant may contain is quite surprising. Take the beet, for instance. The leaves contain invertase, diastase, inulase, and emulsin, while the root contains diastase, maltase, inulase, and emulsin, and the stem possesses invertase, diastase, inulase, and emulsin. Then the bark of the horse-chestnut has been found to contain at least five distinct enzymes. The moulds, too, possess marked powers of secreting different enzymes, Dox having published a list of fourteen different ones demonstrated by him as present in these low forms of plant-life—a fact having considerable bearing in connection with the preservation of galenical preparations, such as liquid extracts, concentrated infusions, and distilled waters. Any development of these organisms in such preparations must tend to cause rapid deterioration. The question occurs—What precisely are enzymes? What is their nature and what are their properties? Owing to the difficulty of isolation and freeing them from proteins it has not been found practicable to obtain absolutely pure products, so that their exact chemical constitution has yet to be discovered. Some of them are supposed to be closely allied to the proteins, while others, like invertase, contain but little nitrogen and much carbohydrate with some organically combined phosphorus. Still another class, the oxydases, may possibly not be organic compounds at all, but owe their properties to certain inorganic catalytic salts in colloidal solution. According to Wolff, a very dilute solution of ferrocyanide mixed with a colloidal iron solution gives all the reactions of an oxydase, and is partly destroyed by boiling or by admixture with certain metallic salts. All our knowledge points to the fact that the enzymes are catalytic agents of remarkable power, capable of effecting chemical changes with extreme rapidity and at a low temperature, whether their action results in building up compounds or resolving them. Unlike the inorganic catalysts, the enzymes are very sensitive to light and heat. Up to a certain point increase of temperature accelerates their action; then a point is reached when the temperature has a deleterious effect on the enzyme, retarding its action; and, finally, all enzymes are destroyed at 100°, while most of them cannot with safety be heated above 60°. Certain enzymes are, however, destroyed by ultra-violet light. On the other hand, dry material may in some cases be exposed to a temperature of 100° for some hours without destruction of the enzymes. In dry material enzymes have been found to retain their activity after twenty years, and exposure to low temperature does not effect their destruction.

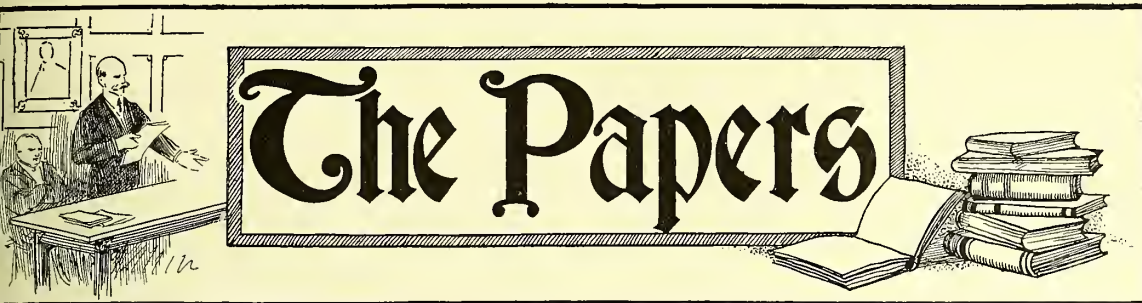
Some enzymes work only in an acid medium, others in an alkaline one, while yet others require the presence of certain salts to ensure their action. On the other hand, certain substances have a retarding or paralysing effect on them; mercuric salts, arsenious oxide, sulphuretted hydrogen, ozone, formaldehyde, chloroform, and alcohol, for instance. In using alcohol to destroy enzymes the stronger the alcohol the lower the tempera-

ture required to destroy the enzyme, up to the point when precipitation of the latter takes place; above that strength the heat must be increased with the alcoholic strength. In practice a strength of 60 per cent. is generally as strong as can be used with advantage. From the invariable presence of enzymes in all plants and parts of plants used in preparing drugs, it results that in the preparation of the drug from the fresh material enzymatic action has a fundamental importance. As soon as we begin to dry the substances changes take place, and it concerns us to utilise to the best of our ability those which are beneficial and to prevent as far as may be practicable those which may be deleterious, utilising all the facts which have become known to that end.

This branch of the subject is already receiving a considerable amount of attention in France, where simple herbs are much more in vogue than is the case in England. It is recognised that the stabilisation of drugs—that is, rendering permanent the easily decomposed natural combinations in which the active constituents of plants occur by the destruction of the ferments which cause deterioration—will become an important phase in the pharmaceutical practice of the future. Among the first workers in this direction, Goris and Arnould showed that by means of treatment by steam under pressure in an autoclave kola-nuts might be rendered stable and the caffeine-kolatin compound preserved unaltered. This method is applicable to a large number of drugs. The same authors for the stabilisation of herbs and flowers recommend that the fresh material should be treated with the vapour of alcohol or acetone, under reduced pressure, for the destruction of the contained enzymes, the temperature being kept below 100°. Five minutes' treatment was generally found to be sufficient, and practically no juice was removed from the cells. The plants on withdrawal from the apparatus are dried in warm air in the usual manner.

On the other side of the question, many drugs, such as vanilla, tea, coffee, tobacco, orris-root, cascara sagrada, and others, develop their characteristic properties owing to the action of the enzymes during drying and storing. In such cases stabilisation would entirely alter the character of the drug, and it therefore behaves us to move somewhat slowly and with much consideration. The introduction of stabilisation would alter the character of many of our galenicals, of that there can be no doubt. The preservation of the natural compounds in the state of combination in which they exist in the fresh drug should considerably improve a large number of drugs which now show more or less rapid deterioration. Compare, for instance, the pleasant aroma of the newly dried hop with that of an old sample, where the valerol has become converted into isovaleric acid.

But seeing that our drugs have gained their repute on the strength of non-stabilised material, we should not be too hasty in altering the whole of our methods; and in any steps to be taken the medical profession should be called on to co-operate by submitting the products to pharmacological test and to clinical practice. At the present time we might with advantage proceed to stabilise our liquid extracts and concentrated infusions, the proportion of alcohol in most of these preparations being too low to stop the action of any enzyme present. We should also see that the proportion of alcohol used as preservative is adequate to prevent the development of any moulds, etc., which might be introduced from the air. Strictly speaking, these matters should be in the province of a Pharmacopœial Committee, representing the medical profession and our own calling, and the funds proceeding from the sale of the Pharmacopœia should be devoted exclusively to defraying the expenses connected with its production, including the investigations required in that connection. Hitherto practically all the work done with the object of bringing the volume up to date has been undertaken by manufacturing firms and by private pharmacists, their suggestions later on being adopted by the editors appointed by the General Medical Council to draft the monographs and edit any new edition.



Commercial Standards for Dried Magnesium Sulphate, Sodium Sulphate, and Sodium Phosphate.

By J. C. UMNEY, F.C.S., and C. T. BENNETT, B.Sc., F.I.C.

COMMERCIAL samples of dried magnesium sulphate, sodium sulphate, and sodium phosphate are not of constant composition. It is desirable that manufacturers should endeavour to produce a uniform article.

DRIED MAGNESIUM SULPHATE is not official in any Pharmacopœia, and there is no recognised standard for the dried salt. In the manufacture of effervescent preparations, such as salines and granules, it is necessary to use partially dried salt in order to prevent the powder from "caking" or becoming damp. In the preparation of Magnesium Sulphas Effervescens, the British Pharmacopœia orders the salt to be dried until it has lost 23 per cent. of its weight. This represents a loss of three molecules of water. In the corresponding formula of the United States Pharmacopœia it is directed that the salt be dried in a water-bath until it ceases to lose weight. Experiments show that the loss in this case is about 36 per cent., equivalent to five molecules of water. Squire states that the salt loses one molecule of water (=7.3 per cent.) at 20° to 52° C., six molecules (=43.8 per cent.) at 120° to 130° C., and the remaining molecule (representing a total of =51.1 per cent.) at 200° to 230° C. The anhydrous salt may be obtained by ignition at a dull red heat, without decomposition, and this method serves to indicate the proportion of residual water in a particular sample. The sulphate radicle can be determined in the usual manner by precipitation as barium sulphate and the magnesium as magnesium pyrophosphate. The average loss in the production of the dried salt on the commercial scale is approximately 30 per cent. The product then corresponds approximately with the salt containing three molecules of water (about 31 per cent.). If dried to constant weight at 100°, the loss would be approximately 36 per cent., the residual salt containing two molecules of water, or approximately 23 per cent. The authors suggest that a reasonable standard for Magnesium Sulphas Exsiccatus would be that it should be prepared by drying at 100° until it has lost about one-third of its weight, and that the product should contain not less than 23 per cent. and not more than 31 per cent. of water. The product should be readily and completely soluble in water.

The calculated composition of magnesium sulphate in different states of hydration is as follows, the second column of figures being the percentage of water:

MgSO ₄ ·7H ₂ O	48.82	51.18	MgSO ₄ ·3H ₂ O	68.9	31.1
MgSO ₄ ·6H ₂ O	52.63	47.37	MgSO ₄ ·2H ₂ O	76.9	23.1
MgSO ₄ ·5H ₂ O	57.14	42.86	MgSO ₄ ·H ₂ O	86.9	13.1
MgSO ₄ ·4H ₂ O	62.5	37.5			

Another table showed the results of analyses of various supplies of dried sulphate of magnesium, the variation being from a salt containing two molecules of water up to one containing four.

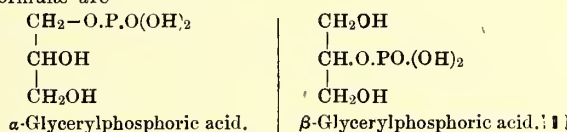
SODIUM SULPHATE readily parts with its water at 100° C., and on a small scale the salt is practically anhydrous at the end of two hours, the loss being 55.7 to 55.9 per cent. The proposed standard for the dried salt is that it should not contain more than 5 per cent. of water.

SODIUM PHOSPHATE.—The dried salt is official in the United States Pharmacopœia, which states that it is prepared by allowing the crystals to effloresce for several days in warm air at a temperature of 25° to 30° and further drying in an oven, gradually raising the temperature to 100° C. and maintaining it at that point until the salt ceases to lose weight. Samples have been examined containing as much as 19.9 per cent. of moisture. It is considered that 5 per cent. would be a reasonable limit for moisture in this salt. At a red heat it is converted into sodium pyrophosphate. The authors acknowledge the experimental work of Mr. D. C. Vining.

The Composition of the Glycerophosphates of Commerce.

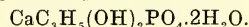
By J. C. UMNEY, F.C.S., and C. T. BENNETT, B.Sc., F.I.C.

THIS is a report on the commercial glycerophosphates on the market, showing how far they comply with the descriptions given in the "British Pharmaceutical Codex." In a recent paper by King and Pyman on "The Constitution of the Glycerophosphates" ("Journal of the Chemical Society," 1914, pp. 1238-1259) it is stated that two isomeric modifications of glycerylphosphoric acid are known, which are distinguished as α and β . The formulæ are—



Salts of both these acids were prepared, and it was shown that the commercial calcium salts do not consist entirely of monoglyceryl phosphate, but contain one or more complex condensation-products, which would account in part for a low calcium-content.

CALCIUM GLYCEROPHOSPHATE.—In accordance with the formula for the anhydrous salt given in the "British Pharmaceutical Codex," this is required to contain 19.04 per cent. of calcium. In Merck's "Annual Report," 1911, the composition of the salt is stated to be—



In the French Codex the formula is given with one molecule of water. Commercial salts appear to vary considerably, but do not contain the proportion of calcium corresponding to the anhydrous salt, the highest figure that has been obtained by the authors being 17.1 per cent. of calcium, equivalent to 89.8 per cent. of anhydrous salt. The so-called "soluble" calcium glycerophosphate contains citric acid, the presence of which can be detected by Denigès' test. The titration method carried out as described under the heading of Potassium Glycerophosphate does not give satisfactory results. By direct titration with normal acid (using methyl orange as indicator) the results obtained are too low, while a back titration with normal soda (using phenolphthalein as indicator) gives results which are obviously too high. The results by direct ignition to calcium pyrophosphate agree fairly well with those obtained by precipitation of the calcium as oxalate, the method indicated in the "British Pharmaceutical Codex." The authors prefer to collect the

precipitated oxalate, ignite, add excess of normal hydrochloric acid, and titrate back with normal sodium hydroxide, using methyl orange as indicator. This gives the total lime without complete ignition to oxide.

The results obtained with fifteen samples showed a calcium-content varying from 13.4 to 17.1 per cent., calculated as anhydrous 70.4 to 89.8 per cent., or calculated as with two molecules of water 82.4 to 105.2 per cent. The following experimental work was also shown:

	Calcium per cent.	Anhydrous per cent.	With 2H ₂ O, per cent.
Soluble Salt:			
(a) Direct titration ...	11.4	59.8	70.0
(b) Back titration ...	16.3	85.5	100.2
(c) Ignition ...	15.0	78.8	92.3
(d) Precipitation ...	14.8	77.8	91.1
Ordinary Salt:			
(a) Direct titration ...	16.3	85.2	99.8
(b) Back titration ...	16.2	85.0	99.6
(c) Ignition ...	16.7	87.7	102.7
(d) Precipitation ...	16.5	86.6	101.5

The solubility in cold water, according to the "British Pharmaceutical Codex," is about 1 in 30. The French Codex gives 1 in 25, and in Merck's "Annual Report" the solubility is given as 1 in 40. The authors have found commercial "soluble" samples generally soluble in 25 parts of water, while the ordinary salt requires 50 parts of water. The salt is precipitated as the temperature is raised, is practically insoluble in boiling water, and is decomposed by prolonged boiling. The solubility is increased by the addition of citric acid, which is used in the preparation of the "soluble" variety, and this appears to be present in many commercial salts, as shown by Denigès' test. This accounts for the discrepancy between titration with normal acid (methyl orange indicator) and back titration with normal soda (phenolphthalein).

FERRIC GLYCEROPHOSPHATE.—This salt is in the form of a yellowish powder, or in scales. It is slowly but completely soluble in cold water (1 in 2 or less). The iron-content may be determined as follows:

Dissolve 1 gram in 200 c.c. of water in a glass-stoppered bottle. Add 5 grams of potassium iodide and 15 c.c. of strong hydrochloric acid, and allow to stand for one hour at the ordinary temperature. Titrate rapidly excess of iodine with decinormal sodium thiosulphate. 1 c.c. = 0.0056 gram iron.

Commercial salts give 14.5 to 15.3 per cent. of iron.

MAGNESIUM GLYCEROPHOSPHATE.—The anhydrous formula given in the "British Pharmaceutical Codex" corresponds to a magnesium-content of 12.3 per cent. The highest figure the authors have obtained is 12.0 per cent., but most commercial salts contain 10 to 11 per cent. of magnesium. The magnesium-content cannot be determined by titration, as the end-point is not sharp with methyl orange, and the results obtained are too low. Back titration with normal soda to phenolphthalein gave much higher results in some cases, indicating the presence of citric acid, which was confirmed by Denigès' test. Direct ignition to pyrophosphate, on the other hand, gives too high results. The best method appears to be precipitation as magnesium ammonium phosphate and ignition in the usual way. Commercial salts are slowly but completely soluble in 2 parts of water (or less). Commercial salts gave results varying from 9.0 to 12.0 per cent. magnesium, or calculated as anhydrous salt 71.7 to 95.6 per cent.

POTASSIUM GLYCEROPHOSPHATE.—This salt is almost invariably supplied in the syrupy form containing 75 or 50 per cent. of the salt. The anhydrous salt is seldom met with in commerce, and is described in the "British Pharmaceutical Codex" as very hygroscopic, becoming dry only after long heating to 140°-150°. The formula given is for the anhydrous salt, but in Merck's "Annual Report" it is stated to contain three molecules of water, and the authors understand from Mr. Merck that his 75-per-cent. solution contains 75 per cent. of the hydrous salt. The variation in commercial samples, however, is greater than one would expect, as shown by the following results, obtained by titration with normal sulphuric acid, using

methyl orange as indicator. If phenolphthalein is then added, an equal amount of normal soda should be required to neutralise. The results referred to are crystals showing 78.1 and 84.7 per cent. of anhydrous salt or 95.1 and 103.2 per cent. of salt with three molecules of water. Solution described as 75 per cent. contained from 63.6 to 90.5 per cent. of anhydrous salt or 77.5 to 110.2 per cent. of salt with three molecules of water.

SODIUM GLYCEROPHOSPHATE.—The formula given in the "British Pharmaceutical Codex" is for the hydrated salt, containing one molecule of water. According to Merck this salt contains three molecules of water, equivalent to about 20 per cent. of water. Samples of commercial anhydrous powder estimated by titration as under Potassium Glycerophosphate gave 93.1, 96.5, 97.0, 99.4 per cent. of the anhydrous salt. The crystalline variety contains five molecules of water of crystallisation. A sample of crystals showed by titration 68.3 per cent. of the anhydrous salt, equivalent to 96.7 per cent. of the hydrous salt (5H₂O). Samples of 75-per-cent. solution gave results varying from 62.8 to 78.1 per cent. of salt with one molecule of water, or calculated to three molecules of water 72.2 to 89.8 per cent.

The following are the authors' conclusions, which are tentative:

Calcium Glycerophosphate is of variable composition, and does not correspond with a definite proportion of water. For the preparation of the compound syrup of glycerophosphates the soluble salt is preferable, as it is less likely to deposit. The authors see no objection to the addition of citric acid in the preparation of the salt, so long as it contains not less than 15 per cent. of calcium. It should be soluble in 25 parts of water.

Magnesium Glycerophosphate may also contain citric acid to render it more soluble, but the magnesium-content should not fall below 10 per cent. No definite formula for the hydrated salt can be assigned.

Ferric Glycerophosphate should contain approximately 15 per cent. of metallic iron, and should be completely soluble in 2 parts of water.

Potassium Glycerophosphate is not readily obtainable in the crystalline form. Solutions should be required to contain 75 per cent. or 50 per cent. of the anhydrous salt.

Sodium Glycerophosphate.—The crystalline form contains five molecules of water. Solutions should be required to contain 75 per cent. or 50 per cent. of the anhydrous salt.

The authors acknowledged the experimental work done by Mr. J. S. Prince.

The Determination of Iron in the Presence of Phosphoric Acid.

By C. E. CORFIELD, Ph.C., and W. R. PRATT, B.Sc. (Lond.), A.I.C., Ph.C.

RECENTLY, in determining the amounts of ferrous and ferric iron present in a sample of iron phosphate, it was found that results obtained by volumetric methods differed considerably from those obtained by gravimetric methods, the latter being very much higher and also appearing to be higher than the actual amount present. In looking for the cause of this divergence several methods for the determination of iron have been examined and compared, and the results have proved so interesting from the analytical point of view that they have been deemed worthy of being placed on record.

A comparison of the various volumetric methods which have been suggested from time to time has been carried out, using (a) a solution of iron free from phosphoric acid, (b) a solution of iron containing phosphoric acid. At first it was thought that the low results obtained were due to interference by the phosphoric acid, but generally this proved not to be the case, the fault lying in the process itself. The methods employed were:

(1) Titration, by means of N/10 potassium-bichromate solution, of a solution reduced by means of

(a) A metal and hydrochloric acid, using fine dust, zinc-copper couple, tin, and amalgamated aluminium;

(b) Stannous-chloride solution;

(c) Sodium sulphite and ammonium hydrogen sulphite in acid solution.

(2) The iodimetric method of the United States Pharmacopœia.

In the main the results obtained show that in solutions free from phosphoric acid all the reducing agents employed

completely reduce the iron to the ferrous state, but in the presence of phosphoric acid the reduction is somewhat lower, notably in the case of the sulphites. Similarly in the case of the iodiometric method the presence of the acid tends to retard the reaction. As regards the subsequent titration, solutions which gave low results were those containing zinc salts, for reasons which are stated below. The presence of phosphoric acid had no apparent effect upon the end-point. Reduction by means of tin and aluminium in both hydrochloric and phosphoric acid solution gave solutions which titrated well. Similarly the titration of solutions reduced by means of stannous chloride and sulphites gave good results, but the former proved the most workable and is recommended for solutions containing phosphoric acid. The authors gave the details of each method. The following are the two processes which are found to be trustworthy:

REDUCTION BY MEANS OF STANNOUS CHLORIDE.—This was first introduced by E. Knecht ("Journal Dyers' and Colourists' Soc.," xix., 6). Originally a direct titration was employed, but, owing to the faint colour of the dilute ferric solution, it is difficult to gauge the end-point of the reaction. If, however, a slight excess of stannous chloride is added, this may be removed subsequently by addition of mercuric-chloride solution (see Sutton's "Volum. Analysis"). The reduction is rapidly effected in the cold. On titration the end-point is well marked with the indicator and free from any accompanying tint. The method works equally well in the absence or presence of phosphoric acid. In absence of phosphoric acid the method gave 1.019 per cent. Fe, and the same in the presence of the acid. In the authors' opinion this is the safest and most easily manipulated method for the determination of ferric iron.

THE IODIMETRIC METHOD.—This method is employed by the United States Pharmacopœia for the titration of ferric iron, a temperature of 40° for thirty minutes being recommended. Joseph ("Journ. Soc. Chem. Ind.," 1910, 9, 189) suggests titration at once without using a temperature higher than normal. One of the present authors ("Pharm. Journ.," 1912, 88, 359 and 641), using the method, found that it is accurate over a large range of temperature, time, and concentration of acid, but that at a low temperature it is not instantaneous, the time required being a function of the temperature. In the present instance it was also found equally useful in the presence of phosphoric acid, provided that hydrochloric acid is also present in excess. In the presence of the former acid alone the reaction is very slow. As previously recorded, the results by this method tend to be slightly high. In a solution containing ferrous and ferric iron the former may be readily oxidised by hydrogen peroxide, excess being boiled off. In absence of phosphoric acid the method gave 1.026 per cent., and in the presence of the acid 1.025 per cent. The authors devoted considerable time and trouble to attempts to devise a gravimetric method, but no success has been met with.

CONCLUSIONS.

The results show that gravimetric determinations of ferric iron in the presence of even small quantities of phosphate give results which are much too high, and which are moreover variable among themselves. Recourse must therefore be had to a volumetric method. Both the iodiometric method and reduction by stannous chloride give results which are very accurate and can be equally well used in the presence of phosphoric acid. The former method gives results which tend to be somewhat higher, this being due to slight air-oxidation of the hydriodic acid. Reduction by zinc or zinc couples has the same disadvantage in the presence of phosphoric acid as it has in its absence—that is, the succeeding titration with diatomate cannot be carried to completion.

The interest was acknowledged of Professor A. W. Crossley, F.R.S., in the work, which was done in the chemical Research Laboratory of the Pharmaceutical Society.

Estimation of Strychnine in Presence of Brucine.

By D. B. Dorr, Ph.C., F.I.C.

DEALING with Gordin's process for the estimation of strychnine in presence of brucine, the author refers to

the question of the strength of nitric acid that should be used and the time of exposure that should be allowed at different temperatures. He suggests that it is distinctly more convenient to perform the operation at the ordinary temperature, and from a considerable number of experiments he arrives at the following conclusions:

When strong nitric acid is added in the proportion of 1 volume to 10 volumes of acid solution and 1 c.c. of nitric acid for each 0.25 gram of brucine, a period of twenty minutes at ordinary temperature is sufficient to destroy all the brucine, or all except a negligible trace. On comparing the action of the acid on strychnine at ordinary temperature for twenty minutes with the action at 40° C. for ten minutes there is appreciably greater loss in the latter case. Comparative tests with pure strychnine and with mixtures of strychnine and brucine give always results in favour of the treatment in the cold. It seems, therefore, evident that the nitric acid should be allowed to react at ordinary temperature for twenty minutes, and that higher temperatures are to be avoided. Perhaps it would be more correct to say that the acid is added to the solution of alkaloids at the ordinary temperature because the addition of the nitric acid causes an immediate rise in temperature. On treating the strychnine obtained by the warm and cold treatment respectively with nitric acid (equal volume dilution), the colour of the latter was perceptibly stronger than that of the former, although there was no red coloration. That the stronger colour, if due to a trace of brucine, represents an infinitesimal quantity is evident from the fact that the addition of 1 milligram of brucine to the lighter-coloured solution produces a distinct red coloration.

Details of some of the experimental work referred to were given, the results of which support the author's conclusions. Working on pure strychnine, 99.87 per cent. of the quantity used was obtained by the cold treatment and 99.07 per cent. by the warm process. In an actual separation of strychnine and brucine there was a loss of 4.45 per cent. of strychnine, employing a temperature of 40° C., while when the separation was carried out at the ordinary temperature, 100 per cent. of the strychnine used was obtained.

The Incompatibility of Strychnine and Nux Vomica with Alkalies, Iodides, and Bromides.

By H. FINNEMORE and E. WILLIAMSON.

THIS research is based on the experiments made by G. Roe (*C. & D.*, 1904, II., 34), dealing with the limits in which strychnine may be dispensed with alkaline substances without precipitation. These are referred to in the "Art of Dispensing," which states that as much as 20 minims of liq. strychninæ to the ounce is not precipitated by the bicarbonates of sodium and potassium nor by ammonium carbonate, but that this amount is precipitated by some other alkalies named. The "British Pharmaceutical Codex" places the limit at 8 minims per ounce. The authors have reinvestigated the matter.

The results are collected in the table, where the figures refer to the number of days taken by the various strengths to crystallise:

Solution of Strychnine Hydrochloride and Alkalies.

Alkali Used, Quantity per fluid oz.	Minims of Liquor Strychninæ Hydrochloridi per fluid oz.					
	5	8	10	12	16	20
Sodium bicarbonate—						
15 grains	33	—	—	—	21	10
Potassium bicarbonate—						
20 grains	—	—	13	13	—	20
Ammonium carbonate—						
5 grains	10	10	—	—	3	3
Solution of ammonia—						
10 minims	—	—	1	—	—	1
20 minims	—	—	1	—	—	1
Aromatic spirit of ammon.—						
30 minims	—	7	—	6	—	—
Potassium carbonate—						
10 grains	—	1	—	—	—	—
Liquor arsenicalis—						
8 minims	—	—	—	—	10	8
12 minims	—	—	—	8	—	3
20 minims	3	—	—	—	—	—
Magnesium oxide—						
Saturated solution ...	—	—	—	—	4	—

The authors found that neither bicarbonate of sodium or potassium, ammonium carbonate, spirit of sal volatile, nor Fowler's solution precipitate when mixed with nux vomica in amounts as high as 12 minims to the ounce of the liquid extract. In many cases a slight deposit of amorphous matter is formed but, when washed with water, this did not give the reactions of strychnine, and from the nature of this easily diffusible deposit, no danger was to be apprehended. Only in one case, with solution of ammonia and 12 minims of the liquid extract of nux vomica, has crystallisation been observed.

Speaking generally, there is a great difference between the amount of strychnine hydrochloride that can be administered with alkalies when in solution in water and when in the form of the tincture or the liquid extract of nux vomica. In the first case, should crystallisation occur, the alkaloid is deposited in well-defined crystals, which are in some cases fairly large, while with nux vomica preparations, although there is often a deposit, this is usually amorphous, and does not appear to be alkaloidal. Of these two the tincture would appear to be the safer, because the alcohol in the latter retards crystallisation. In only one case has crystallisation occurred with nux vomica preparations, and that contained 12 minims to the ounce of the liquid extract and 20 minims to the ounce of the solution of ammonia. This is an unusual combination in actual practice, and, as shown later, the same amount of the liquid extract did not crystallise with 30 minims of aromatic spirit of ammonia.

With regard to the solubility of strychnine, the authors have observed that crystallisation occurs when in the proportion of 8 minims of the solution to the ounce, which is equivalent to 1 in 6,600, and they consider it desirable to redetermine the solubility of strychnine in water. Experiments on this point lead the authors to think that the solubility of strychnine has been overstated.

The most striking feature of the experiments now recorded is the difference in the behaviour towards alkalies of strychnine in the form of the solution and that existing in its natural state in admixture or combination with the other ingredients of nux vomica seeds which are extracted with alcohol. It appears that whereas strychnine and alkalies or iodides may become dangerous under varied and indeterminate conditions, when the drug is given in the form of the tincture or the liquid extract, no precipitation occurs, and no danger need be apprehended, provided the concentration is not greater

potassium iodide, precipitation only occurs in a mixture containing as much as 15 minims of liq. strychnine and 15 grains potassium iodide per oz. In the other cases the results are practically negative.

The Mineral Constituents of Certain Tinctures and Drugs.

By S. JUDD LEWIS, D.Sc., F.I.C., Ph.C.

It is well known that plants take up small but notable quantities of inorganic elements from the soil in which they grow, and that in some cases the absorption is selective. Recently, during the determination of the constitution of chlorophyll, the green colouring-matter

Characters of the Tinctures Employed.

	Baptisia	Belladonna	Colchicum	Thuja
Part used ...	root	fresh plant	fresh corm	fresh plant
Strength ...	1 in 10	12 m. = 1 gr. dried plant	1 in 10	1 in 10
Sp. gr. at 15° C. ...	0.932	0.96	0.928	0.890
Extractive	2.35	2.23	1.456	2.83
dried at 100° C.	From 100 c.c.			
Ash ...				
	0.0986	0.464*	0.1008	0.0776

* This is equivalent to 1 in 10 (the usual mother tincture), and on this basis the figures in the second table were calculated.

of plants, the importance of magnesium to the constructive process has been established. In molecular structure chlorophyll is very closely related to hæmatin, the red colouring-matter of the blood; the former, which under the influence of light brings about the absorption of carbon dioxide by plants and the elimination of oxygen, has magnesium as an essential element, while the latter, instrumental in the absorption of oxygen by the animal organism and the evolution of carbon dioxide, has an atom of iron in its molecule. The interdependence and the association of the two classes of organisms prescribe the almost universal occurrence in the one kingdom of that metal which is so essential to the existence of the other. Hence, magnesium is to be anticipated in all mineral matter which has passed through the vegetable cell, and traces of iron are always to be expected.

Mineral Constituents				Milligrams per 100 c.c. of Tincture				Percentage of Dried Drug	
—				Baptisia	Belladonna	Colchicum-corm	Thuja	Lycopodium	Sepia
Copper ...	...	...	—	trace	trace	trace	trace	trace	trace
Iron ...	...	...	Fe ₂ O ₃	0.24	2.74	0.25	0.29	0.028	0.096
Aluminium	...	...	Al ₂ O ₃	1.2	minute traces	0.2	0.14	0.17	0.84
Manganese	...	...	Mn ₂ O ₄	0.14	—	0.2	1.1	0.01	—
Calcium...	...	...	CaO	2.2	0.80	2.5	3.1	0.04	1.79
Magnesium	...	...	MgO	5.8	13.37	6.7	12.0	0.17	3.46
Lithium...	...	...	—	trace	2.0*	0.2*	0.15*	—	0.1*
Sodium ...	...	...	Na ₂ O	1.36	53.6	3.8	1.4	trace	2.9
Potassium	...	...	K ₂ O	41.1	254.9	50.0	33.0	0.23	1.32
Silicon ...	...	...	SiO ₂	0.32	—	0.3	1.0	0.24	0.37
Boron ...	...	...	B ₂ O ₃	0.06*	3.5*	0.1*	0.05*	trace	0.2*
Phosphates	...	...	P ₂ O ₅	0.5	21.4	10.3	1.0	nearly all the remainder	0.57
Sulphates	...	...	SO ₃	10.7	2.8	1.81	absent	not calculated	1.60
Chlorides	...	...	Cl	1.4	2.2	0.05	20	not calculated	3.35
Bromine	...	...	—	—	—	—	—	—	trace ; iodine absent

* These were determined spectroscopically; the other constituents by chemical methods.

than that found under normal conditions of prescribing and dosage.

Incidentally the authors noted the results of employing potassium iodide and potassium bromide with liq. strychnine and tinct. nucis vom. In the case of

Indeed, the presence of iron is necessary for assisting the formation of chlorophyll, although it does not enter into the constituents of the pigment.

Potassium and calcium are also constantly present. The occurrence of other metals is frequently more or

ess accidental, but many plants take up large quantities of particular mineral substances. Sodium is widely distributed, while lithium, aluminium, and manganese are frequently encountered; lithium being more frequent in the green parts of plants. Copper is not rare.

Among the non-metals, sulphur and phosphorus are nearly always present in the ashes of plants, being derived from organic compounds in the living organism; but notable quantities of their highest oxy-acids—sulphuric and phosphoric acids—as inorganic salts are not constant. Chlorine occurs frequently, and boron usually. Traces of boron appear to be far more common than generally supposed. Recent researches show that boron is almost universally distributed in very small quantities. This has been amply demonstrated to be the case with animals generally ("Comptes rendus," 1913, 56, 732); hops; wines ("Comptes rendus," 1910, 150, 413). The author has found it in every one of the eleven instances concerned—the present inquiry—also in the spectrographic examination of several water-residues for medicinal or technical purposes.

The object of the present inquiry was to ascertain the nature and proportions of the inorganic constituents present in certain tinctures and drugs. It was of special interest to search for any unusual elements and to determine the concentration of all. It was therefore necessary to supplement the chemical analysis by a thorough spectroscopic examination. Rather than an ordinary spectroscope, a modern quartz spectrograph was employed. In this way not only is the visible spectrum photographed, but also the ultra-violet spectrum. This procedure is necessary for the detection of those several elements which do not emit visible spectra or where this is feeble or ill-defined as is the case with iron, magnesium, silicon, boron, and phosphorus. (See THE CHEMIST AND DRUGGIST, 1914, I., 722-724.)

to the ordinary practitioner when it is realised that the drug potency of these preparations—namely, 1 in 10—is substantially the same as that of the tinctures of the British Pharmacopœia.

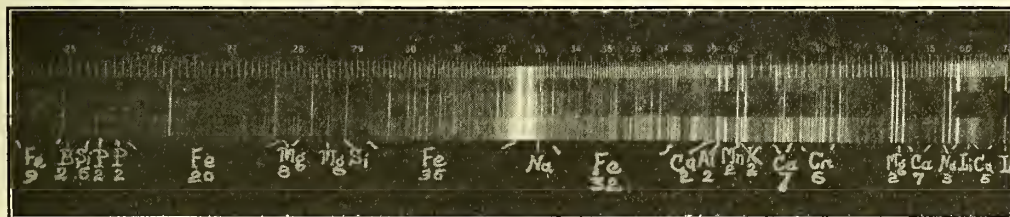
It was the tinctures which were more critically examined, but with a view to adding to the interest and value of the work a spectrographic examination of the mineral matter in the corresponding drugs was made. Although in the cases of belladonna, colchicum, and thuja the drug is not that from which the tincture was made, the larger significance remains. In the case of sulphur and phosphorus, only that present in the form of sulphates and phosphates was determined, so distinguishing the inorganic from the organic compounds of these elements.

The results which are embodied in the two tables have been compiled from the author's data, the following being additional information regarding the six drugs which formed the subject of the investigation:

Baptisia Tinctoria.—A selected specimen of the root was carefully freed from all extraneous earthy matter and a portion ashed. The yield was 3.04 per cent. calculated on the dry root. The root contained 11.30 per cent. moisture. By the spectrum of the ash the following elements were recognised: Fe, Al, Mn, Ca, Mg, Li, Na, K, Si, B, P.

The spectrum of the ash of the tincture revealed the presence of all these elements except silicon, which has disappeared, as might be expected from the sparing solubility of most of its compounds, while aluminium and manganese are scarcely discernible. On the other hand, lithium, sodium, potassium, also boron and phosphorus, are in much stronger evidence.

Belladonna.—Selected specimens of English root and English leaves were examined for their inorganic constituents. The leaves contained 10.95 per cent. moisture, and yielded 16.17 per cent. of ash calculated on the dry drug.



SPECTRUM OF THE ASH OF BELLADONNA-ROOT, WITH WAVE-LENGTH SCALE.

The figures under the symbols indicate the number of lines grouped together which are significant of the element. In the original negative there are other still finer lines.

In the accompanying spectrogram of the ash of belladonna-root, three-fourths of its length represent the ultra-violet, and only the remaining quarter is derived from the visible spectrum. The regions are approximately as follows, as indicated by the wave-length scale: all to 39.7, ultra-violet; 39.7 to 42.4, violet; 42.4 to 50.0, indigo; 45.0 to 49.2, blue; 49.2 to 57.5, green; 57.5 to 59.5, yellow; 59.5 to 64.7, orange; beyond which are the red and infra-red.

The ash is rendered incandescent in an electric arc between copper electrodes. Hence copper lines occur in all the spectra, and serve as guide-lines in comparing the various spectra. The centre band in the figure is due to the copper electrodes only, so that only the additional lines in the outer bands are significant. The two outer parts are essentially the same, but they are taken separately under somewhat different conditions, in order to develop the various lines. It follows that copper was sought independently by chemical means.

The greater portion of this communication formed originally part of a report on an investigation undertaken on behalf of the Research Committee of the British Homœopathic Association, by whose permission the present publication is made. Hence the four tinctures described are the "mother" tinctures of that school. But it will be seen that this does not limit the interest

By means of the spectrum the following elements were discovered in the ash: Fe, Ca, Mg, Li, Na, K, B.

The root showed moisture 11.72 per cent. and ash 6.48 per cent., calculated on the dry drug. The spectrum revealed, in addition to the elements found in the leaves, Al, Si, P. The spectrum of the tincture showed that the elements composing the ash were the same as shown in the leaves, but with the addition of Al and P. Each of the three spectra, although from different plants, shows lithium and boron to be present.

Colchicum Autumnale.—A fine specimen of dried English corm was found to contain 11.38 per cent. of moisture. The ash amounted to 1.93 per cent., calculated on the completely dried drug. The spectrum revealed the presence of the following elements: Fe, Ca, Mg, Na, K, Si, B, P. The spectrum of the ash of the tincture indicated Mn and Al, in addition to the elements shown above.

Here, it will be observed, are certain differences from the list of elements found in the drug—namely, aluminium and manganese were found both spectroscopically and chemically in the tincture, yet in neither of four spectra of the specimen of corm. It is to be noted that the tincture was not made from this parcel of corm.

Thuja Occidentalis.—Some young thuja-shoots, which had been so carefully dried as to retain much of their freshness, were examined for moisture and mineral matter as a preliminary to the work on the tincture. The loss on drying at 100° C. amounted to 9.66 per cent., and the ash to 7.75 per cent. (calculated on the well-dried drug). The spectroscopic examination determined the presence of Fe, Al, Mn, Ca,

Mg, Na, K, Si, B. The spectrum exhibited by the tincture gave no indication of Fe, Al, but Li was present in addition to the elements shown above.

Lycopodium Clavatum.—A specially resifted sample was obtained, and examined with reference to its purity, particularly to its freedom from sand and other earthy matter, with satisfactory result. The moisture amounted to 4.13 per cent. and the ash, on the dry drug, to 1.49 per cent. The spectrum indicates the following elements: Fe, Al, Mn, Ca, Mg, Na, K, Si, B, P.

Sepia.—A pure specimen of that used in homeopathic practice was dried, and yielded 18.38 per cent. of moisture. Its ash amounted to 18.85 per cent., calculated on the fully dried drug. The spectrum of the ash indicated the presence of Fe, Al, Ca, Mg, Li, Na, K, Si, B, P. The organic chemistry of this interesting drug appears still to be in a very imperfect stage, and, although a systematic attempt at its analysis was made by Prout nearly a century ago (1815), vague unconfirmed and contradictory statements prevail. No doubt this is partly due to the varying conditions of the sepia which was analysed, and to the putrefactive changes which it undergoes immediately after abstraction from the fish, unless properly dealt with. The major portion is composed of the pigment proper, the nature of which is but little understood. It contains much nitrogen (8.8 per cent.) and no mineral matter, according to Girod (1881); no mention is made of sulphur. Nevski and Sieber (1888) separated amorphous sepiaic acid, containing 12.3 per cent. nitrogen and 0.5 per cent. sulphur, which is the nearest approach to the isolation of any proximate principle. Another statement is to the effect that the colouring is the product of the fermentative action of a tyrosinase on tyrosin or some similar body. Curiously, Girod found the mineral matter of sepia free from phosphates, and some do not refer to their occurrence. On the other hand, much phosphorus has been found by others as in the present case. It appears desirable to reconsider the methods of collection, preservation, and preparation of this drug if its therapeutic action is to be reliable.

The Rate of Dialysis of Alkaloids in Aqueous Solution and in the Form of Galenicals.

By H. FINNEMORE, B.Sc., F.I.C.

IN some experiments, comparing the time taken for solutions of strychnine to crystallise, it was observed that the strychnine when in the form of nux vomica preparations was precipitated with comparative difficulty. It seemed likely that this was due to the alkaloid being present either in a colloidal form or that the colloidal bodies with which it is associated keep it in solution by some process similar to adsorption. The fact that the strychnine is present in the seeds in combination with caffeotannic acid had also to be considered. It was considered that dialysis might throw some light on the difference, if any, between the strychnine in aqueous solution and that occurring in nux vomica galenicals. The results obtained show that there is a great difference in the rate of dialysis between these, and it is conceivable, and, indeed, probable, that this difference may have some considerable bearing upon the therapeutic effect of the two, for from the experiments now recorded there is more than a probability that the alkaloid will be absorbed at different points in the alimentary canal, the strychnine in the solution being absorbed in the stomach and upper part of the intestines, and that in the galenical further down.

EXPERIMENTAL.

Some liquid extract of nux vomica, deprived of alcohol, was made up to its original volume and placed in a dialyser at the ordinary winter temperature of the laboratory. The dialysate gave no precipitate with Mayer's reagent till more than two hours had passed, but it was bitter and some phenolic body diffused through—most probably caffeotannic acid—as the liquid gave the catechol reaction. In comparison with this it was found that an aqueous solution of strychnine hydrochloride began to dialyse at once, and the dialysate gave an abundant precipitate with alkaloidal reagents in half an hour. In order to gain some idea of the way the contents of extract of nux vomica distribute themselves on being subjected to dialysis, 25 c.c. of a liquid extract containing 3.6 grams of solids and 0.740 gram of total alkaloids was subjected to dialysis. At the end of two hours the dialysate gave no reaction with ferric chloride or Mayer, although it was bitter, but solids had passed through. After four hours 0.705 gram of material had

dialysed, and at the end of the next three hours 0.409 gram, and during the night 0.878 gram. These three were mixed, and the alkaloid found to be 0.444 gram, or 60 per cent. The dialysis was continued for two more days and nights; the extractive amounted to 0.580 gram and the alkaloid in it to 0.1847 gram, or 25 per cent. The material in the dialysate gave an osazone with phenyl-hydrazine, but not until it had been treated with sulphuric acid. The rate of dialysis of a solution of 0.2 gram of strychnine hydrochloride dissolved in 20 c.c. of water was first tried at the ordinary temperature, and the process continued for about three hours, that being about the time a dose of medicine remains in the stomach under normal conditions. The process was then continued for another eighteen hours. During the first period 48 per cent. of the strychnine dialysed, and during the second 21 per cent. Under the same conditions the amount of total alkaloids dialysed from a liquid extract of nux vomica, deprived of its alcohol, and made up to its original volume, was 7 and 37 per cent. In order to see if this retardation was due to the presence of a colloid, 1 gram of gelatin was added to a solution of strychnine similar to the above; there was some diminution in the rate, 38 per cent. of the strychnine dialysing in three hours, and in the next eighteen hours 27 per cent.

Further study of some points that have arisen and of the behaviour of other alkaloids and galenicals is proceeding.

Composition of Tinctura Iodi Decolorata, B.P.C.

By WALTER R. PRATT, B.Sc., A.I.C.

THE author summarised the literature on this subject, and stated that it was found that the residue left on evaporation of the tincture consists of ammonium iodide with no trace of iodate. If the tincture is prepared according to the B.P. Codex, on the addition of the ammonia a dark-coloured precipitate appears, and the solution becomes slightly coloured brown, and finally of a yellow shade, which persists indefinitely and is due to iodoform. The dark-coloured precipitate at first formed was filtered off, and was found to consist of nitrogen iodide, NH_4I . The faintly coloured filtrate contained iodides and also a little nitrogen iodide in solution, to which the colour is most probably due.

Other possibilities were mentioned and fully discussed, with references to original papers and experimental results, all being summed up as follows:

During the preparation of the tincture, on addition of the alcoholic solution of iodine to the ammonia, approximately half the iodine is precipitated in the form of nitrogen iodide; the remainder forms ammonium iodide. The nitrogen iodide partly decomposes by the action of light, nitrogen being evolved and more ammonium iodide formed. Hydrolysis of part of the nitrogen iodide produces ammonium hypoiodite, this being hastened by the alcohol. The ammonium salt thus produced reacts with the alcohol to form a small quantity of iodoform, and also, if the temperature is sufficiently high, produces traces of iodate. The bulk of the hypoiodite, however, decomposes, and forms iodide by loss of oxygen. Traces of acetaldehyde and hydroxylamine are also formed. The finished tincture is an alcoholic solution of ammonium iodide with excess of ammonia, containing about 0.1 per cent. iodoform and, in some cases, traces of ammonium iodate, hydroxylamine, and acetaldehyde.

The Place of Carbon Disulphide in Official Pharmacy and Suggestions for its Further Use.

By F. H. ALCOCK, Ph.C., F.I.C.

AFTER enumerating the uses to which carbon disulphide is put officially, the author suggests that it might be employed as a means of ascertaining the amount of constituents extractable from some official liquid preparations, such as liquid extracts and tinctures, by the process of shaking out with this solvent, which is practically immiscible. Some useful results have been obtained, and a few are here recorded.

The method used is to agitate 10 c.c. of the liquid with 20 c.c. of carbon disulphide, remove the clear liquid, and evaporate in a small carbon-dioxide flask attached to an efficient condenser. Very little difficulty is experienced in the separation of the two layers, which, as a rule, is sharp, both in manner and time. The

following yields of extract are for grams per 100 c.c. of tincture :

Orange-peel	0.1	Hyoscyamus	0.35
Cinchona co.	0.15	Gelsenium	0.06
Cardamoms co.	0.2	Sumbul	0.8
Squills	0.05	Jaborandi	0.04
Opium (duplex)	0.45	Ginger	0.3
Opium (B.P.)	0.27	(total solids, 0.5)	
Valerian anm. (neutralised)	0.3	Jalap	0.02
Rhubarb co.	0.3	Myrrh	3.1
Senna	0.14	(total solids, 6.5)	
Digitalis	0.2	Hops	0.85
		Tolu	1.4

In the case of tinctures of rhubarb and senna, the residue gave with alkalis an intense crimson colour, which was destroyed by acids. This reaction would possibly be useful as an indicator of acidity and neutrality.

In the case of compound tincture of benzoin, a second or even third shaking out with more immiscible solvent does not, as a rule, give a greater yield when carefully dried, but this preparation treated in the above manner behaves unusually. Ten c.c. with 20 c.c. of carbon disulphide, and the lower layer removed gives a fairly constant residue when dried at 170° F.; subsequent treatment continues to yield more extractive.

Generally from one-third to two-thirds of the total solid residue can be removed in the four operations. Liquid extract of cascara sagrada gave 0.28 per cent., and the extractive behaved in a similar manner with alkalis and acids, as did rhubarb and senna.

The fat in liquid extract of nux vomica may be removed by agitation with carbon disulphide, and its amount determined on evaporation. Very little alkaloid is hereby removed, and recently examined liquid extract gave 0.3 per cent. of residue so extracted.

Anæsthetic Ether of Commerce.

By H. FINNEMORE, B.Sc., F.I.C.

ALTHOUGH not recognised by the current Pharmacopœia, anæsthetic ether of commerce is largely prepared from industrial methylated spirit, the high price of that made from rectified spirit having of late years been the cause of the increased use of the former. In view of the fact that all the large London hospitals use methylated ether, and that statistics show that the custom of anæsthetists in their private practice is very similar, it is necessary to scrutinise closely this article as sold in order to see (1) how it agrees with the Pharmacopœia tests for rectified ether, and (2) how these tests compare with those of the product commercially obtainable, in order that, if necessary, their stringency should be increased.

Careful fractionation of the commercial product shows that methylated ether falls into two main classes :

(a) A low-boiling variety, which begins to boil at about 6° to 25°.

(b) A carefully fractionated product, from which the low fractions are eliminated: this may all distil within one degree or even less.

No evidence exists as to the relative value of these two varieties. The following observations are based on the examination of commercial brands supplied to Guy's Hospital, and they represent the products of practically all the British makers. It is only fair to say that, while some samples have been rather inferior, in the main they have reached a very fair average of purity. The impurities found in commercial ether fall into two classes :

(a) Those incidental to the spirit from which it is derived: of these acetone, water, and alcohol are the chief.

(b) Those due either to incomplete purification or to subsequent decomposition: of these the most important are acetaldehyde, peroxides, and acids.

The odour of ether is a very useful guide to its purity. To get a good idea of its relative freedom from impurities pour 2 c.c. into the hand, allow it to evaporate, and note the odour and that of the residue. Quite a good number of ethers in actual use as anæsthetics leave

a residue which is quite pungent, and from some the residue produces violent sneezing.

A good deal of information can be obtained by a careful fractionation. Distil 100 grams in a round-bottom flask by means of a small naked flame at the rate of 60 to 80 drops per minute, using an efficient condenser. Most of the acetaldehyde is found in the first fraction, and smaller quantities in the second and third. A higher-boiling aldehyde is frequently present in the residue after distillation. Water also comes over in the first fractions, and, provided the quantity is not unduly large, in the next two in progressively smaller amounts. Acetone and alcohol are found in all the fractions and in the residue. Peroxides occur only in the residue. The following were quoted as specimen fractionations :

Low-boiling Ether.

Degrees	Grams
Below 20	0.5
20 to 25	4.0
25 „ 27.5	7.7
27.5 to 29.4	10.2
29.4 „ 32.7	9.4
32.7 „ 33.0	10.3
33.0 „ 33.5	10.0
33.5 „ 33.7	10.1
33.7 „ 33.9	8.5
33.9 „ 34.1	10.0
34.1 „ 34.2	6.6
Residue	7.0
Loss	6.7
	100.0

Higher-boiling Ether.

Degrees	Grams
33.0 to 33.7	8.1
33.7 „ 33.8	19.7
33.8 „ 33.9	60.7
Residue	6.0
Loss	5.5
	100.0

THE PRESENCE OF ACETONE is very strong presumptive evidence that the samples are not what they are said to be. In the absence of aldehyde, acetone is shown by the production of a brown colour with solid potash, but it may be more readily detected by shaking about 4 c.c. with an equal amount of 5-per-cent. solution of hydroxylamine hydrochloride, followed by about the same volume of solution of chlorinated soda. In the presence of acetone the ether layer acquires a green to blue coloration. This test will detect acetone in the proportion of 0.25 per cent. or less. A delicate test, capable of detecting 1 of acetone in 10,000 of ether, consists in adding about 1 c.c. of a freshly made 5-per-cent. solution of sodium nitro-prusside, then 3 or 4 c.c. of strong solution of ammonia, followed by solid ammonium chloride. An intense magenta colour soon develops. About half the methylated ethers on the market have been entirely freed from acetone. The presence of this small amount of acetone has no therapeutic importance, but it is interesting as a fair index of purity, for it has been noted that the samples which are free from acetone are as a rule clean in respect of other impurities.

PEROXIDES.—The pharmacopœial test with chromic acid is not stringent enough. An ether must be of extremely low quality to give a positive reaction with this test, and as such ether invariably contains irritating decomposition-products, a more searching test should be instituted, such as the coloration produced in a solution of potassium iodide or the reduction of a solution of vanadic acid (0.2 gram of acid in 4 c.c. sulphuric acid). The green solution is changed by peroxides to various shades of reddish brown according to the amount of peroxide present. Most freshly made ethers shown no sign of reduction at all, and properly preserved ethers very little.

ALDEHYDES may be present in small quantity in freshly prepared ether, and acetaldehyde is a constant impurity in ethers which have begun to decompose. The Pharmacopœia potassium-hydroxide test is useful, but coloration may be due to acetone as well as aldehyde. François's modification of Schiff's test can be made quantitative. The reagent is made by adding 3 c.c. of concentrated sulphuric acid to 30 c.c. of 1-in-1,000 solution of magenta, with sufficient sulphur dioxide to saturate the liquid. An equal amount is added to the ether, and sufficient strong alcohol, free from aldehyde, to render the two liquids miscible. A possibility of error should be noted; a sample containing aldehyde will not give the coloration if much peroxide is also present.

ACTION OF ALKALINE POTASSIUM PERMANGANATE.—Poleck and Thümmel have stated that vinyl alcohol (CH_2CHOH) is a constant impurity in practically all ethers. The author found that alkaline permanganate could not be employed for the purpose because of the presence of acetaldehyde. Nevertheless, with a 1-in-10,000 solution of potassium permanganate and 1 in 1,000 of sodium carbonate well purified ether shows little reduction in five minutes, whereas an ether containing aldehyde or peroxides rapidly reduces it. The residue after evaporation of 20 c.c. may also be tested with this reagent. The results are parallel with those obtained with other reagents, but its rapidity and simplicity commend it to further trial.

ALCOHOL AND WATER are present in all ethers. The former should not be considered an impurity, because it is necessary for the preservation of ether, just as it is for chloroform, as the late Dr. Wade and the author proved. Water alone does not appear to exert much influence on its keeping properties.

The following are results of the examination of eight samples of ether, arranged in order of merit :

	1	2	3	4	5	6	7	8
Alkaline KMnO_4 ...	6	1	2	5	4	3	8	7
Francois (Schiff) ...	6	1	2	4	5	3	8	7
KOH (90 minutes) ...	4	1	2	3	8	5	7	6
Vanadic acid ...	6	1	2	3	4	5	7	8
Potassium iodide ...	6	1	2	3	4	5	7	8

Liquor Opii Sedativus.

By R. R. BENNETT, B.Sc., F.I.C., and T. TUSTING COCKING.

LIQUOR OPII SEDATIVUS is prescribed by some medical practitioners in preference to tinctura opii and extractum opii liquidum, the understanding being that liquor opii sedativus is comparatively free from narcotine, thebaine, meconic acid, and the resinous and odorous constituents of opium. The "British Pharmaceutical Codex" directs liquor opii sedativus to be prepared by first boiling opium and calcium hydroxide with water for half an hour; the mixture is then cooled and strained, the marc is pressed, and to the mixed liquids are added water, alcohol, and sherry. The finished product is directed to be set aside for some time and then filtered, the volume being finally adjusted by the addition of 60-per-cent. alcohol. The flavour and aroma of the preparation are said to be much improved by keeping, and a period of six months is suggested for maturing the liquor. The formula differs in the relative proportions of calcium hydroxide, alcohol, sherry, and water from one which has appeared in all the editions of "Pharmaceutical Formulas."

It is generally understood that liquor opii sedativus contains a somewhat larger percentage of morphine than is contained in tinctura opii and extractum opii liquidum, presumably on the assumption that standard opium is used, and that little or no morphine is lost during the process. Recently two batches of liquor opii sedativus, made in accordance with the "British Pharmaceutical Codex" formula from opium containing 10 per cent. of morphine, were found to contain a very low percentage of morphine when assayed by the B.P. process for tinctura opii. One sample contained 0.256 per cent. of morphine, while the other sample contained no more than a trace of morphine. In the case of the latter batch, which had been maturing for some months, the marc from which the liquor had been pressed was assayed, and found to contain no morphine, but the sediment thrown down during the period the liquor was maturing contained over 5 per cent. of morphine.

In view of the above results, 57 grams of opium, standardised to contain 10 per cent. of morphine, was used to make 570 c.c. of liquor opii sedativus, the directions being followed closely. The pressed marc was reserved and the liquor was allowed to mature for six weeks, at

the end of which period it was filtered from the sediment which had deposited during standing. The marc, the liquor, and the sediment were assayed, and there was found to be a loss of 0.764 gram of morphine out of 5.7 grams of morphine contained in the 57 grams of opium. It was suggested that this may be explained by the fact that alkaline solutions of morphine absorb oxygen from the atmosphere, forming pseudo-morphine (oxydimorphine), which would escape estimation, and which is without physiological action.

The alkaloid morphine is readily soluble in cold lime-water, forming a light-brown solution, which darkens gradually on exposure to the air and much more rapidly when heated. The solution deposits slightly on the addition of alcohol in the proportion ordered for the preparation of liquor opii sedativus, but deposits much more freely on the further addition of detannated sherry. The alkalinity of the liquor also diminished.

Another experimental batch of liquor opii sedativus was then made from opium standardised to contain 10 per cent. of morphine. The liquor was divided into three equal portions: (A) was set aside to mature; (B) was made faintly acid with hydrochloric acid; (C) was made faintly acid with acetic acid. The three portions were then allowed to stand undisturbed for sixteen days, at the end of which period (A) was found to have thrown down a bulky amorphous deposit, while a number of crystals, ranging up to 3 millimetres in length, had collected on the sides of the bottle; but (B) and (C) exhibited only a very slight amorphous deposit. The three portions were filtered and assayed, when (A) was found to contain 0.400 per cent. of morphine, (B) contained 0.940 per cent. of morphine, and (C) contained 0.935 per cent. of morphine. The solutions are still under observation.

CONCLUSIONS.

(1) That the Codex formula for liquor opii sedativus is unsatisfactory, inasmuch as after prolonged standing the whole of the morphine is precipitated in combination with a portion of the calcium in the liquor.

(2) That it would be advisable to exhaust the opium by cold maceration with calcium hydroxide in a closed vessel, instead of by boiling, since it has been shown that when a solution of morphine in lime-water is boiled considerable darkening, consequently chemical change, takes place.

(3) That the liquor should be slightly acidified after the addition of alcohol and sherry. The product, after filtration, may be made up to volume with 60-per-cent. alcohol, as directed by the Codex formula, and, if also rendered acid, it is unlikely to become weaker by the precipitation of morphine.

The use of acetic acid for acidifying the liquor is open to the objection that ethyl acetate may be formed to a noticeable extent, and it is suggested that either hydrochloric acid or sulphuric acid should be used.

A sample of Battley's liquor opii sedativus assayed recently was found to contain 1.70 per cent. of morphine. It contained free sulphuric acid, the acidity being such that 10 c.c. required for neutralisation 14 c.c. of decinormal alkali.

The authors record their thanks to Mr. E. J. Chappel for his assistance in conducting the experimental details of the above work, which has been carried out in the analytical laboratories of The British Drug Houses, Ltd.

The Stability of Cinnamic Aldehyde.

By H. ADIE PHILLIPS, A.I.C., Ph.C.

THIS investigation was entered upon to discover whether there was any basis of fact for the suggestion that in the distillation of cinnamon-bark oil some of the cinnamic aldehyde is oxidised to cinnamic acid. In the experiments the acidities were determined by titration with N/20 alcoholic potash. With cinnamic aldehyde itself the titration had to be done rapidly. The aldehyde values were obtained by the gravimetric method of Hanus (Gildemeister and Hoffmann, 586), for the reasons that only a small amount of oil is necessary, and aldehydes alone are determined. To endeavour to gauge the amount of oxidation due to air in handling the oils, about 20 grams of cinnamic aldehyde was exposed to air and light in a shallow dish lightly covered with filter-paper.

acidity increased approximately 1 per cent. per day, as shown by the following statement :

Days	Percentage of Cinnamic Acid
0	2.4
1	3.2
7	7.4
12	11.6
17	17.0
19	19.4

an English and a foreign cinnamon oil were exposed in a similar manner. In both cases the daily increase in acidity was less than 0.1 per cent. On steam-distillation, and subsequent extraction of the aldehyde with ether, the following results were obtained :

Cinnamic Aldehyde.

	Percentage of Aldehyde	Percentage of Acid
Before distillation	98.5	2.3
After	97.0	3.3

A sample of foreign cinnamon oil similarly treated gave :

	Percentage of Aldehyde	Percentage of Acid
Before distillation	86.5	2.3
After	90.5	0.8

The experiment was therefore repeated, drying the oil (after separation with ether) by means of sodium sulfate and using no vacuum, the results being :

Cinnamon Oil (Foreign).

	Percentage of Aldehyde	Percentage of Acid
Before distillation	86.5	2.3
After	85.0	1.2

The acidity of the aqueous portion of the distillate, after separation of the ethereal solution and that of the residual liquid in the distillation-flask, were both taken, and the following result :

Cinnamon Oil (Foreign).

	Per cent.
Acidity before distillation	2.3
after distillation—	
Oil	1.2 per cent.
Residue	0.9
Aqueous distillate	0.8
Total	2.9

The total increase in acidity was negligible. Five grams of the sample in aqueous suspension was neutralised with alcoholic potash, and the whole steam-distilled as before. The acidity of the distillate, with separation of the oil, and that of the residual liquid in the distillation-flask, were determined, with the following results :

Increase in Acidity.—Total Distillate.

	Per cent.
Cinnamon oil (foreign)	0.3
“ “ (English)	0.6
Cinnamic aldehyde	0.7

The aldehyde-content of an English oil, containing a lower percentage of the more volatile constituents than the above foreign oil, increased somewhat on steam-distillation—viz., from 55.5 per cent. to 60 per cent. The third and last treatment was steam-distillation under conditions more resembling those met with in practice when extracting the oil from the bark. Five grams of oil was boiled in a large flask with water. The distillate from an upright condenser dropped into a U-tube, so arranged that the bulk of the oil remained in the flask, and the remainder of the distillate passed into the flask. The distillation was continued for six hours without a break. The acidity of the whole liquid was then determined. In this and similar experiments used for oil-extraction from bark, where the light and heavy oils are separately collected, the oil is the more exposed to the air, the heavy oil covered with distillate. Moreover, very little oil is lost over until the greater part of the air in the boiler

has been replaced by steam. The following table shows the results obtained :

Oil	Duration of Distillation	Percentage of Acid	
		Before	After
Cinnamic aldehyde	8 hours	2.4	2.2
“ “	6 “	3.0	3.0
Cinnamon oil “ (foreign)	6½ “	1.9	2.1
“ “ (English)	6½ “	1.1	1.1

These experiments seem to prove that, under the usual conditions prevailing during steam-distillation, cinnamic aldehyde—both pure and as a constituent of cinnamon oil—is not appreciably oxidised.

Benzoin: Its Analytical Characters.

By T. TUSTING COCKING and JAMES D. KETTLE,
B.Sc., F.I.C.

THE authors gave the results of the examination of several samples of benzoin and suggested the following analytical process :

“ DRY ” ALCOHOL-SOLUBLE MATTER.—Exhaust the powdered drug in a Soxhlet with alcohol, and weigh the residue after drying; another portion of the powdered drug, dried *in vacuo* over sulphuric acid to constant weight, gives the moisture, and from these figures the “ dry alcohol-soluble ” matter is obtained.

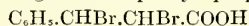
ACID-VALUE AND ESTER-VALUE.—The alcoholic solution obtained as above can conveniently be utilised for these determinations.

The method adopted for the estimation of the aromatic acids in the case of storax*—by repeated boiling with water and subsequent cooling and separation of the crystallised cinnamic acid—was found to be unsatisfactory in the case of benzoin, because (1) at the temperature of boiling water the resin does not soften sufficiently to allow of complete extraction of the acids; and (2) the benzoic acid, which is present in notable proportion, is much more soluble in water than is cinnamic acid, so that the correction for solubility introduces too large an error. The following method was found to be satisfactory :

Five grams of the powdered drug is exhausted in a Soxhlet with alcohol, and the alcoholic solution saponified with excess of potash in the usual manner; the alcohol is then evaporated off, the mass dissolved in 100 c.c. of water, and the whole rendered slightly acid with hydrochloric acid; 5 grams of light magnesium oxide and 20 c.c. of xylene are added, the flask connected to a reflux condenser, and boiled for one hour. After cooling, the aqueous portion is filtered off, the filter-paper and contents being returned to the flask, which is then boiled a second time with 100 c.c. more water. The aqueous portion is again cooled and filtered off, and the extraction repeated a third time. The bulked aqueous liquids are washed once with ether, the mixed balsamic acids liberated by acidifying with hydrochloric acid and extracted with ether. The ethereal solution is evaporated to low bulk on the water-bath, and the residual balsamic acids dried *in vacuo* over sulphuric acid and weighed.

BENZOIC AND CINNAMIC ACIDS.—The proportion of benzoic and cinnamic acids in the mixed aromatic acids is determined by a modification of the bromination method of A. W. K. De Jong.† This is carried out as follows :

To the mixed acids obtained as above excess of 5-per-cent. solution of bromine in carbon tetrachloride is added, allowing to stand overnight, and evaporating off the solvent and excess of bromine on a water-bath. The last traces of the latter are removed by several evaporations with a little ether, and the acids dried *in vacuo* over sulphuric acid and weighed. One molecule of cinnamic acid absorbs two atoms of bromine, forming di-brom-phenyl propionic acid—



—and from the increase in weight after bromination the amount of cinnamic acid present is found. [Cinnamic acid = increase in weight $\times 0.9263$.]

As a proof of the validity of the method and the purity of the extracted acids, the following experiments were cited :

(a) 0.2 gram resin acids from a sample of benzoin, carefully freed from cinnamic and benzoic acids, was mixed with

* *C. & D.*, March 16, 1912, and May 25, 1912.

† *J.S.C.I.*, January 31, 1910, p. 112.

0.5 gram pure cinnamic and 0.5 gram pure benzoic acid. On treatment according to the method above described, 1.004 gram of balsamic acids was obtained, and 0.492 gram cinnamic acid.

(b) 0.7 gram pure cinnamic acid was mixed with 0.414 gram pure benzoic acid. The mixture increased in weight, on bromination, by an amount corresponding to 0.696 gram cinnamic acid.

The saponified mass, obtained after determination of the acid and ester values, must not be used for determining the composition of the mixture of aromatic acids, since

and after a few hours will even solidify. This is due to the separation of large quantities of inulin. (It would be interesting, says the author, to know whether inulin, as such, occurs in the root at all; if so, it must be in supersaturated solution.) This setting is obviated by pressing the juice into the prescribed quantity of alcohol, when the inulin separates in a more tractable form. Other juices, such as those of henbane and cinium, are similarly obtained, and I am sorry they are not more prescribed in our district.

No.	Per cent. Alcohol- insoluble	Per cent. Moisture	Per cent. Dry Alcohol- soluble	Acid- value*	Ester- value*	Saponifica- tion-value*	Per cent. Free Benzoic Acid*	Per cent. Free Cinnamic Acid	Per cent. Combined Benzoic Acid	Per cent. Combined Cinnamic Acid	Per cent. Total Aromatic Acids
1.	19.7	14.0	66.3	140.3	64.1	204.4	6.92	9.08	0.98	9.71	26.69
2.	24.0	10.6	65.4	139.9	83.2	223.1	6.11	10.73	4.83	6.81	28.48
3.	4.3	1.6	94.1	127.0	63.2	190.2	1.12	17.0	1.2	16.62	35.94
4.	22.6	10.4	67.0	132.8	63.2	198.0	7.52	8.68	2.14	6.72	25.06
5.	21.1	7.0	71.9	137.1	68.4	205.5	6.26	9.76	2.91	8.47	27.4
6.	0.5	0.7	98.8	142.4	65.2	207.6	22.34	1.16	12.41	3.32	39.23
7.	3.7	1.6	94.7	137.5	65.8	203.3	21.47	2.68	12.2	3.1	39.45
8.	20.7	6.0	73.3	142.1	56.5	198.6	8.21	13.21	2.44	4.64	28.5
9.	14.6	2.3	83.1	122.9	56.0	178.9	19.33		5.97		25.3
10.	21.7	5.6	72.7	122.0	47.0	169.0	18.31		4.4		22.71
11.	23.1	5.3	71.6	122.3	81.5	203.8	14.0		7.56		21.56

* Calculated on dry alcohol-soluble.

Nos. 1, 2, 4, 5, 8, 9, 10, and 11 were ordinary commercial samples of Sumatra benzoin. No. 3 was a particularly fine old sample of Sumatra block: it was very pale in colour, and the aromatic acid present consisted almost entirely of cinnamic. Nos. 6 and 7 were Siam tears and block respectively. The presence of cinnamic acid in these was proved by treating a portion of the mixed acids with potassium dichromate and sulphuric acid, when a faint but unmistakable odour of benzaldehyde was produced.

the phenolphthalein, which is used as an indicator, would be extracted along with the acids, and, by absorbing four atoms of bromine per molecule, would completely vitiate the final determination with bromine. The "free" balsamic acids are determined in a manner similar to the foregoing process for the determination of the total balsamic acids by boiling the powdered benzoin with water, magnesium oxide, and xylene, and continuing the process as described above. The accompanying table shows the figures found for a number of commercial samples of benzoin. For their better comparison the acid, ester, and saponification values have been calculated on the "dry" alcohol-soluble portion. In the table the results of the examination of eleven samples of commercial benzoin are gathered together.

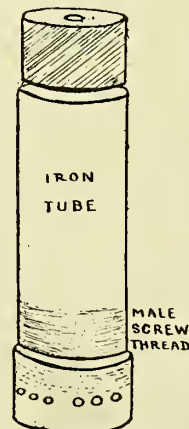
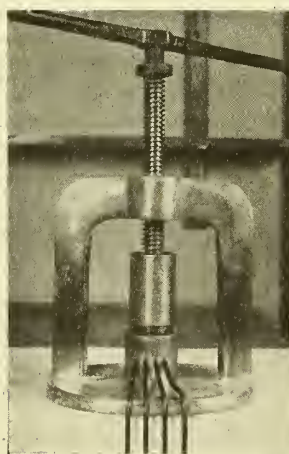
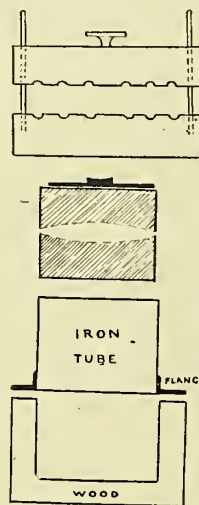
The work involved was carried out in the laboratories of The British Drug Houses, Ltd., under the direction of Mr. C. A. Hill, B.Sc., F.I.C.

Some Uses of a Tincture-press.

By E. W. POLLARD, B.Sc., Ph.C.

As an illustration of the uses of a tincture-press the author takes the extraction of dandelion-juice. If

The press can also be used as a pill-piper. For this, obtain a piece of iron tubing—say, 6 in. long and 2 in. in diameter—turned up true, and polished, with screwed end and blocked flange complete. In the



flange a series of holes, coned from the inside, is bored; glass tubing of the size of 2-, 3-, 4-, and 5-grain pills is given to the workman to work from. There can be, say, three holes of a size, and the holes not required are stopped on the inside by a circular piece of tin. The mass comes out curly at first, but after "rounding" the edge of the press straightens itself, and the "pipe" can be made by the yard.

To prepare special soaps to order, a piece of tubing 3 in. in diameter is selected and turned true; two flanges are brazed on as shown in the diagram. Two plungers are then cast of "white-metal," plano-concave, using the end of a pestle as a mould as in the illustration. A piece of iron for the end of the screw and a reversible wooden platform complete the apparatus. The medicament is massed with soap-shavings and pressed between the concave pieces on the wooden "table," which is then reversed and the soap pressed down

autumn roots, as usually preferred, are employed, the juice, he states, though at first clear, soon thickens,

rough. It is necessary to grease the concavities or the up will stick fast. For certain suppositories also the press is useful. For torpedo soap-suppositories a slab of soap is placed between the two halves of a suppository-mould and pressed, excellent suppositories resulting. For more of this kind of work it would be necessary to have guiding-pins as shown. The author considers that he has not exhausted the uses to which a press can be put, and hopes to turn his attention to capsules and lozenges.

Adulteration of Belladonna-leaves.

G. STAFFORD ALLEN and HAROLD DEANE, B.Sc., F.I.C.

The greater part of the English belladonna-crop is converted into green extract, the dried herb used in making alcoholic extract of belladonna-leaves being imported from the Continent at a lower price than British leaves

by the authors, who found the leaves of *Phytolacca decandra*, *Scopola carniolica*, and *Ailanthus glandulosa* in proportions varying from about 20 to about 80 per cent. of the "belladonna-leaves" submitted. The authors summarised the macroscopic features of these adulterants, laying special emphasis on the differences between the fruits and seeds of scopola and belladonna. They stated that the detection of these substitutes by macroscopic examination is not easy, but they find that microscopic examination distinguishes all these leaves readily; the simplest and quickest method is to put a portion on a slide, cut it in two, and turn one portion over so as to have both the upper and lower epidermis available for examination, add a little chloral-hydrate solution, cover and warm until sufficiently transparent for examination, but not so transparent as to render the epidermis invisible, a point which requires a little care to attain in the case

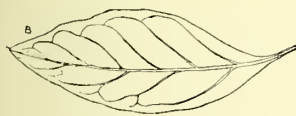


FIG. 1.



FIG. 4.

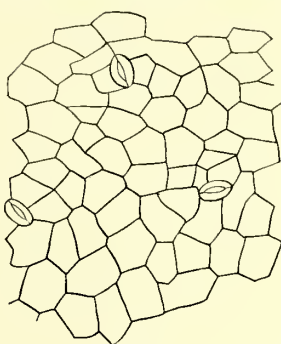


FIG. 2.



FIG. 3.

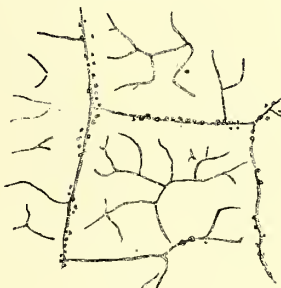


FIG. 5.

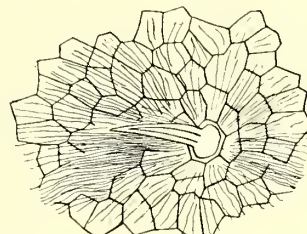


FIG. 6.

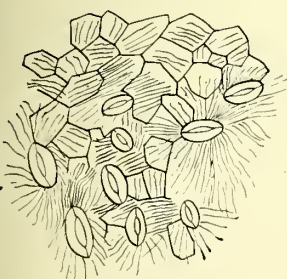


FIG. 7.

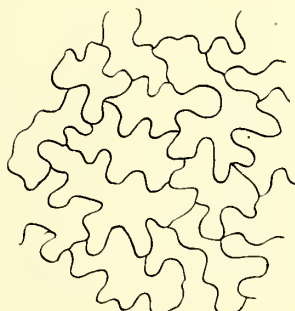


FIG. 8.



FIG. 9.

Fig. 1. (A) Leaflet of Ailanthus, showing glands (gl); (B) Leaf of Phytolacca; (C) Leaf of Scopola. (Reduced.) Fig. 2. Phytolacca—Upper Epidermis. Fig. 3. Phytolacca—Lower Epidermis. Fig. 4. (A) Acicular Raphides from Phytolacca; (B) Cluster-crystals from Ailanthus. Fig. 5. Leaflet of Ailanthus, showing distribution of the calcium oxalate. Fig. 6. Ailanthus—Upper Epidermis, showing a hair; owing to the folding of the cuticle, some of the cells are indistinct. Fig. 7. Ailanthus—Lower Epidermis; owing to the folding of the cuticle many of the cells are indistinct. Fig. 8. Scopola—Upper Epidermis. Fig. 9. Scopola—Lower Epidermis.

be supplied. It has been practically impossible to unadulterated belladonna-leaves for the past six years, as during the year the supply has been very small and adulteration has been largely practised. Though no new sophistication has been found, a good many samples of adulterated leaves have been detected

of scopola. When phytolacca is examined in this way, the characteristic acicular raphides (fig. 4) are apparent and distinguish it. In some cases these bundles are short and bear a close resemblance to the cells of sandy crystals which mark belladonna, but closer examination shows them to be composed of needles. In a few leaves rosettes are

also present, consisting not of calcium oxalate, but apparently of some organic substance. The epidermal cells are polygonal, with straight or slightly curved walls; stomata occur on both surfaces, and hairs are absent, except that over the larger veins some of the epidermal cells form papillose projections which may almost be called hairs.

In *ailanthus* calcium oxalate occurs as cluster crystals (fig. 4), which are distributed in lines along the veins. There is much variation in the number present; in some leaves they only occur along the largest veins, while in others they are found accompanying even the smallest branches. The one illustrated (fig. 5) is an intermediate example. The epidermal cells are polygonal, and stomata occur only on the lower surface. The cuticle is thick, very markedly striated, and much folded, so that, especially on the under side, it is difficult to make out the epidermal cells. The striations on the upper surface usually radiate from the hairs. The latter are notable; they are slightly curved, unicellular, usually thick (though occasionally thin) walled, and frequently attain a great length. The one figured is rather short. Mithlacher stated that on the under surface they are frequently two or three celled, but we have not observed any of these. Usually they occur scattered freely over the upper surface and only on the veins on the lower surface, but there is some variation, and in some leaves from the Cambridge Botanical Garden they occurred only on the edges of the leaflets. In addition to the glands on the under side, mentioned above, small glands, or rather large many-celled glandular hairs, which in fresh young leaflets are visible to the naked eye, occur on the upper surface, but they are not easily found in the dried leaves. A very full description (not illustrated) of these leaves was given by Mithlacher, and an illustrated description of the powder by Lemeland.

Scopola is not so easily distinguishable from *belladonna*, the epidermal cells and the stomata showing similar characteristics. Hartwich says that the epidermal cells are more sinuate and more irregular than in *belladonna*, but the authors could perceive no difference in this respect. The principal difference is that in *belladonna* stomata occur on both surfaces, while in *scopola* they are present only on the lower (in two instances a solitary stoma was seen on the upper surface). Moreover, in *belladonna* the characteristic hairs, though not numerous, occur scattered over the upper surface; in *scopola* short glandular hairs of similar character are present, but are very rare and are found only over the veins. The epidermis is irregular, showing an appearance of folds, and the cell-walls are very thin and transparent, so that the outline of the cells is difficult to observe. The stomata, however, are easily visible. The cuticle is striated. The sandy crystals of calcium oxalate are the same as in *belladonna*, but are usually less common; this, however, is a variable character.

The Purity of Pepsin : Bacteriologically Considered.

By ERNEST QUANT, F.C.S.

ABOUT three years ago the author was asked to prepare a mixture of pepsin and tuberculin, and, to ascertain the biological effect of an injection of this combination, samples were submitted to a pathologist for inoculation-tests. A report was given that two guinea-pigs which received the injection died in forty-eight hours, and a *post-mortem* examination revealed the presence of the *B. enteritidis sporogenes*. An investigation showed that the bacilli were derived from the pepsin, and that other samples were also contaminated. Owing to pressure of other work, further examination was not made, and interest in the matter remained dormant until a few months ago, when the author prepared a stock mixture of pepsin and bismuth tartrate coloured with cudbear, and he observed that this mixture, after being kept for a week or two, had a small amount of froth on the surface, also when it started to lose colour it faded somewhat rapidly. The pepsin was suspected to be the cause of this disturbance. On keeping a solution of pepsin over chloroform in an incubator at 37° C. during the interval of preparing different batches of this preparation no further trouble arose, and it was presumed

that the chloroform sterilised the pepsin. Recently the author has re-examined eleven samples of pepsin in powder and scales from English, American, and Continental sources. Tables were given showing the characteristics and development of bacilli under various conditions of nutriment. Among the organisms found were *B. subtilis* (and spores), *B. mesentericus*, and *streptococci*. Three samples were practically free from contamination. The scale pepsins were found to be superior to the powders, and a feature which was observed in making the milk-tests was that these pepsins which showed an acid reaction to litmus gave the most satisfactory results. The author therefore estimated the "acidity" of the "scale" samples, and accordingly dissolved 5 grams of pepsin in 100 c.c. water; of this solution 10 c.c. was taken for each titration with normal soda. Four of the samples required 1.1 c.c. NaOH, using phenolphthalein, and one 0.1 c.c. Evidence was obtained that the growth of the organisms which might have been present was arrested or killed by the acid. The author concluded by asking whether it can be considered that the bacteriological purity of pepsin is satisfactory.

The Administration of Ext. Filicis Maris Liq.

By F. W. CROSSLEY-HOLLAND, F.C.S.

EXTRACTUM FILICIS MARIS LIQUIDUM is probably the most nauseous drug in the Pharmacopœia, and it has hitherto been difficult to present a palatable or elegant preparation for administration in reasonable bulk as related to dose. The qualities most to be desired in connection with this drug, from the point of view of pharmacy, can be attained by presenting it in the form of a jelly. The author finds that the following formula produces a not unsightly, and not altogether unpleasant, dark olive-green jelly :

Liquid extract of male-fern ...	90 minims
Gelatin	56 grains
Glycerin	1 drachm
Elixir of saccharin	5 minims
Oil of cinnamon	1½ minim
Water	265 minims

The gelatin, water, and glycerin are manipulated in the conventional pharmaceutical method on a water-bath, and when solution is effected the elixir of saccharin is added and the mixture gently stirred; the liquid extract of male-fern and oil of cinnamon are now added, with continued stirring until the whole mass is homogeneous. The mixture is then strained through fine gauze, previously damped, into a suitable container, where it will congeal in a few minutes.

The weight of the finished product is 1 oz. approximately; it contains the maximum B.P. dose of the liquid extract, and the bulk is small—about a fair-sized dessert-spoonful. The jelly is very easily swallowed, and, while it is not absolutely free from taste, the after-taste is practically *nil*; further, a relatively smaller surface is presented to the palate, and the disintegration of the jelly is rapid. It is advantageous to warm the liquid extract of male fern before mixing with the jelly basis. This serves the double purpose of rendering the extract more tractable and of expelling the traces of ether sometimes present, and which add to the already nauseous flavour of the extract.

Castor oil and turpentine are occasionally prescribed with the liquid extract of male fern, and are likely to prove a source of danger to the patient, as they are solvents of the oleo-resins, which are in certain conditions highly toxic. The principles of male fern, such as filicic acid, are not seldom prescribed as substitutes for the whole extract. They are certainly much less objectionable to the palate than the extract, but the weight of clinical evidence is in favour of the entire extract.

Uniformity in the Dispensing of Abnormal Prescriptions.

A Suggested Code of Rules.

By E. SAVILLE PECK, M.A., Ph.C.

AFTER a few introductory remarks, the author predicated that it is the clear duty of pharmacists to carry out the intention of the prescribers conscientiously in all cases, including Insurance prescriptions. There is ample

evidence to show that this attitude is being universally adopted. To assist in the drawing-up of the rules which



MR. E. SAVILLE PECK.

this paper introduces, 250 sets of questions were distributed to pharmacists and local Associations, and about 150 sets of replies were received. When any doubt arises in the mind of a dispenser as to the interpretation and dispensing of a prescription, it is his obvious duty to consult the prescriber and have the doubt removed, but this is frequently impossible, or at least impracticable. The author then dealt with the subject sectionally, thus:

A.—THE INTERPRETATION OF THE PRESCRIPTION.

1. What course should be adopted when the preparations and quantities are illegible?

First, clearly study the handwriting and signs of the whole prescription, and endeavour by analogy to determine the intention of the prescriber in the difficulty under consideration. If the prescription has been made up before, communicate with the previous dispenser or confer with other pharmacists. Failing these methods, a tactful questioning of the patient or his agent may elicit information that may throw light upon the difficulty," so the author quoted from one reply; but the greatest care must be taken to avoid in any way shaking the patient's confidence in the prescriber. If there is doubt as to such items as a syrup or aqua, omit it altogether. If quantities only are illegible or ambiguous, he would be safe in dispensing an average dose. It is advisable, if possible, to intimate to the prescriber the course that has been adopted.

2. What course should be adopted when the dose prescribed is apparently excessive—that is, above the Pharmacopœia maximum?

The replies to this question are summarised as follows:

1. In all cases of excessive dosage take into consideration the age, sex, and condition of the patient, the amount of excess, and frequency of dosage.

2. All drugs frequently prescribed above the B.P. maximum, such as *extractum ergotæ liquidum*, *potassium chloride*, *tincture of belladonna*, *tincture of squills*, and *potassium bromide*, may be generally dispensed as written.

3. If the pharmacist has no further knowledge of the case than that which he can gain from the prescription, an excessive dose should not be dispensed unless initiated by the prescriber.

4. Reduce to British Pharmacopœia maximum, unless circumstances are known which would indicate necessity for a lower dose.

5. If the drug is a potent or dangerous one, such as *acid crocyanic*, *dil.* or *liq.* *strychninæ*, reduce to Pharmacopœia maximum.

6. If scheduled poison, reduce to maximum; if not, dispense as written.

3. What do you understand by a percentage solution?

Out of 137 replies, eighty would interpret percentage solution as meaning weight of solid or liquid in weight of solution or finished product; while thirty-seven out of eighty would dispense weight of solid in volume of liquid. The author, in commenting, pointed out how the specificity of the solvent affects the rule.

4. What steps should be taken to make clear to the dispenser the course which has been adopted?

Over two-thirds of the responders agree that the prescription should be marked by the first dispenser, either on the back of the prescription or by means of a marginal note in pencil.

B.—THE ACTUAL DISPENSING.

1. What course should be adopted when the substances prescribed are incompatible, forming a product which is (a) harmless, (b) objectionable, and (c) dangerous?

(a) *Harmless*: One hundred and ten out of the 150 replied that the prescription should be dispensed as written; two suggest that it should be dispensed in such a way that the reaction takes place before the preparation is sent out, and so avoid subsequent variation in taste or appearance.

(b) *Objectionable*: Ninety-six out of the 150 agree that one should endeavour to obviate or minimise the objection.

(c) *Dangerous*: A fair percentage suggest alteration of prescription, or omission of the least potent substance, or division into two separate containers; but a large majority maintain that it would be safer to refuse to dispense the prescription.

2. What course should be adopted when the particular formula of a preparation prescribed is not indicated?

At least 95 per cent. agree that for an unofficial preparation the "British Pharmaceutical Codex" formula should be dispensed. Failing the Codex, many suggest the different Hospital Pharmacopœias and other standard works. The prescription should be marked accordingly.

3. When a drug in powder-form is prescribed without further specification, should it be dispensed in cachets, capsules, tablets, or as wrapped powders?

Over 90 per cent. consider that insoluble powders should be dispensed as wrapped powders; the few remaining advocate cachets, capsules, and one only tablets. Soluble powders should be dispensed as wrapped powders, with the addition of damp-proof paper in the case of deliquescent substances.

4. Can a general rule be devised to ensure greater uniformity in the size of pills dispensed from the same prescription?

The large majority of replies favour the institution of a custom of the first dispenser stating the excipient used and weight of mass. About 25 per cent. agree that, where practicable, pills should be made up with excipient to the nearest whole number of grains above the weight of material prescribed. One correspondent advocated the introduction of a simple pill-gauge, with five circles of different diameters, through which pills could be passed and their sizes thereby gauged and recorded on the prescription. Another expressed the opinion that "no twentieth-century pharmacy should even possess a pill-machine," and that all pills should be dispensed as tablets.

5. When no coating is specified, should pills be varnished, silvered, sugar- or pearl-coated, or sent out merely dusted with powder?

Over 50 per cent. consider that it is sufficient merely to dust them with powder, and about 30 per cent. advocate varnishing, a method which the author considered should be universally adopted.

6. Should suspending agents be added to mixtures containing insoluble powders and resinous tinctures?

Opinions divided, and it would be well to have the authoritative opinion of the medical profession as to the difference in the physiological effects of mixtures of bismuth salts with or without suspending agents.

7. When a proprietary article is prescribed and wanted urgently, is it advisable to dispense a similar preparation if the one prescribed is not in stock and not immediately obtainable?

Over 80 per cent. reply with an emphatic "No!" Less than 20 per cent. answer in the affirmative. The author suggested that when a proprietary article is prescribed, and found to be neither in stock nor immediately obtainable, it is not advisable to dispense a "similar" preparation.

C.—DISTRIBUTION.

In the dispensing of proprietary articles what custom do you consider should be adopted in regard to (a) original label, (b) original container?

Out of 132 answers received, sixty-one would remove the label and affix their own label with written directions; eight would place their own label over that of the proprietary. These sixty-nine would, therefore, use the same container. On the other hand, sixty-three would use a fresh container, thereby removing all traces of the name, source, and price of the original. The author

suggested that the original labels should be removed, and the pharmacist's own label, with the prescriber's written directions, be placed upon the original container, unless otherwise ordered by the prescriber.

SUGGESTED CODE OF RULES.

Interpretation of the Prescription.

A.—1. In the case of a prescription containing a preparation which is illegible communicate with the first dispenser, if previously dispensed, or confer with other pharmacists; failing this, endeavour by tactful questioning of the patient to obtain information that may throw light upon the difficulty. If illegible drug or preparation is apparently from its position in the prescription, or for other reasons, subsidiary to more important ingredients, omit altogether and dispense only those preparations which are clear. This should be done with the full knowledge and consent of patient. Unless the foregoing enable you to solve the difficulty, decline to dispense the prescription. If possible intimate to prescriber course adopted. If quantities are illegible or ambiguous, dispense an average dose and mark prescription.

2. When the dose prescribed is apparently excessive take into consideration the age, sex, and condition of patient, amount of excess, and frequency of dosage. Dispense generally as written all drugs frequently prescribed above the B.P. maximum, such as Liquid Ext. Ergot, Potass. Iodid., Potass. Brom., Tinct. Bellad., and Tinct. Scillae. If drug is a potent or dangerous one, and you know of no circumstance which would indicate necessity for large dosage, dispense the Pharmacopoeia maximum.

Percentage Solutions.

3. While admitting that many prescribers intend grains of solids in 100 minims of solution, it is advisable for the attainment of greater uniformity in practice to interpret percentage solution as x grains or grams by weight in 100 grains or grams by weight of the solution or finished product. This approximates the Pharmacopoeia standard of 1 grain in 110 minims.

4. When any question is likely to be raised as to the interpretation of a prescription, the first dispenser should make the doubtful points clear to subsequent dispensers by stating the course adopted on the back of the prescription or by marginal note.

The Actual Dispensing.

B.—1. When substances prescribed are incompatible, forming a product which is harmless or objectionable, they should be dispensed as written or some simple means taken to prevent or minimise the objectionable features of the resulting product. In the case of a dangerous incompatibility it would be wiser to decline to dispense the prescription unless some modification is made.

2. When the particular formula of an unofficial preparation is not indicated, the formula given in the "British Pharmaceutical Codex" should be dispensed; failing this, the different Hospital Pharmacopoeias and other standard works should be consulted and the prescription marked accordingly.

3. When a drug in powder form is prescribed without further specification, insoluble powders should be dispensed as wrapped powders and readily soluble powders with an additional wrapping of damp-proof paper. The use of cachets should be encouraged, however.

4. To ensure greater uniformity in the size of pills requiring an excipient the following general rules should be adopted: First dispenser should state excipient used and weight of mass. When the weight of material prescribed does not exceed 1 grain, the pills should be made, if possible, up to 1 grain in weight. In like manner, when the weight of material prescribed exceeds 1 grain but not 2 grains endeavour to make up to 2 grains only, and so on up to 5 grains.

5. When no coating is specified for pills they should be varnished.

6. It is advisable to add a suspending-agent in mixtures containing heavy solids or solids not easily diffusible, in order that accurate dosage may be ensured when pouring out each dose. It is generally advisable to add a suspending-agent to all mixtures containing more than a small proportion of resinous tinctures in an aqueous mixture.

7. When a proprietary article is prescribed and found to be neither in stock nor immediately obtainable, it is not advisable to dispense a "similar" preparation. This rule should only be departed from when the medicine is needed urgently and when neither the original prescriber nor any other medical man available and the patient or his agent agrees after a full statement of the facts.

C.—In the dispensing of proprietary articles the original label should be removed and the pharmacist's own label, with written directions, be placed upon the original container unless otherwise ordered or there are special circumstances to the contrary.

The Legal Obligations of Dispensers.

By H. WIPPEL GADD, F.C.S., Pharmacist and Barrister-at-law.

THERE is no authoritative definition of dispensing, but in the case of *Barrie v. Henderson* (L.R. 5 Q.B., 296) Mr. Justice Lush remarked:

"What I understand to be involved in the word 'dispensing' is the making-up of something that is prescribed and selling it with directions how it is to be used."

Accepting this definition, dispensers are those who make up medicines which are prescribed and sell them with directions as to how they are to be used. It is important to remember that the legal obligations of such dispensers

do not arise until the prescriptions are presented for compounding. In the absence of any special contract with some person or association of persons there is no obligation resting upon pharmacists that they should be available for the dispensing of prescriptions at all hours of the day and night, and on all days of the week. Ordinarily, a contract is formed when the owner of a prescription presents it for dispensing, and the dispenser by accepting it contracts, on his part, to supply in accordance with its directions. Now, the maxim of the common law, *caveat emptor*, is the general rule applicable to sales so far as quality is concerned. The buyer, in the absence of fraud, purchases at his own risk unless the seller has given an express warranty, or unless a condition or warranty be implied from the nature and circumstances of the sale (*vide* "Benjamin on Sale," fifth edition, p. 623). Further, it was laid down by Mellor, J., in *Jones v. Just* (1868, L.R. 3 Q.B., 197) that—

"Where a manufacturer or a dealer contracts to supply an article which he manufactures or produces or in which he deals, to be applied to a particular purpose, so that the buyer necessarily trusts to the judgment or skill of the manufacturer or dealer, there is in that case an implied term or warranty that it shall be reasonably fit for the purpose to which it is to be applied. In such a case the buyer trusts to the manufacturer or dealer, and relies upon his judgment, and not upon his own."

This rule is incorporated in the Sale of Goods Act, 1833 (56 and 57 Vict., c. 71), Section 14 of which enacts that—

"Where the buyer expressly or by implication makes known to the seller the particular purpose for which the goods are required, so as to show that the buyer relies on the seller's skill or judgment, and the goods are of a description which it is in the course of the seller's business to supply whether he be the manufacturer or not, there is an implied condition that the goods shall be reasonably fit for such purpose."

In the case of dispensing a condition or warranty as to fitness or quality is implied because the buyer cannot, and does not, buy on his own judgment. It would therefore be a breach of contract for a dispenser not to make up a medicine in strict accordance with the prescription which he accepts as a basis of his contract. Further, the sale of compounded medicines comes within the provisions of the Sale of Food and Drugs Act, 1875, Section 7, viz.:

"No person shall sell any compound article of food or compounded drug which is not composed of ingredients in accordance with the demands of the purchaser under a penalty not exceeding 20%."

This section was considered, as regards drugs, to apply particularly to prescriptions; but it has been held in more than one case (*Beardsley v. Walton*, 64 J.P., 436, and *Dickins v. Randerson*, 65 J.P., 262) that offences under this section are also punishable under Section 6 of the same Act, which provides a penalty for the sale to the prejudice of the purchaser of any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser, and consequently very few prosecutions have been taken under Section 7.

Again, incorrect dispensing might make the dispenser liable to an action for negligence. Anyone who undertakes the public practice of any profession must exercise such skill and knowledge as would be presumed to be that of an ordinary average practitioner of the profession. There is no distinction in law in this respect between regularly qualified dispensers and those who are not qualified, if in both cases they hold themselves out to undertake dispensing for gain. A qualified dispenser is an expert; the unqualified dispenser is putting himself in the position of an expert. An unqualified person who expressly disclaims any special skill might be only held liable for gross negligence—that is, lack of such diligence and skill as would belong to an ordinary unprofessional person of common sense. In extreme cases the negligence might be such as to incur a criminal liability, and to justify a prosecution for manslaughter.

A dispenser is not liable criminally for any unintentional injury resulting from a lawful act unless the failure to exercise due and proper care can be imputed to him, and the burden of proving such lack of care, when

the act is lawful, is on the plaintiff. Lack of care, however, may be shown by entrusting the actual compounding to an incompetent assistant, as was pointed out by Mr. Justice Hawkins in the *Pharmaceutical Society v. Wheeler* (24 Q.B.D., p. 690), when he remarked:

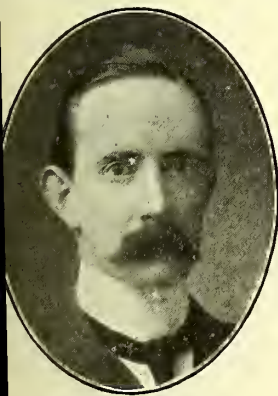
"We need hardly say that if mischief arise by reason of a master negligently leaving an unqualified person in charge of his poisons, no punishment of the assistant under section 15 of the Pharmacy Act would exonerate the master from his civil liability to any person injured, nor if death ensued through such negligence, if a jury found it to be a criminal culpable character, would he be exonerated from the liability to a charge of manslaughter."

The question is periodically discussed as to the ownership of prescriptions, but there is little doubt that a medical prescription is the property of the person who has paid a fee to a medical man for (*inter alia*) writing it. In the absence therefore, of special conditions between a medical man and the person paying him a fee, a dispenser cannot retain the prescription as against the patient. This does not, however, mean that the dispenser (who in the case of a prescription containing scheduled poisons is under a statutory obligation to make a copy of it in a book kept for that purpose) is compelled to furnish a copy of such entry, with or without a fee for so doing, but refers only to the possession of the original document.

Business Science in Pharmacy.

By T. O. BARLOW, Ph.C.

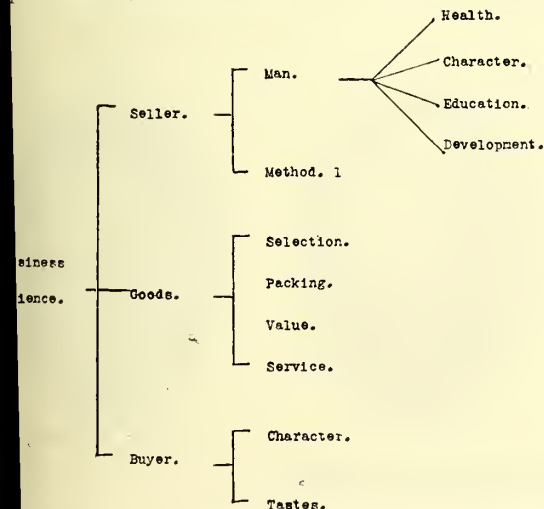
EVERY man out for a living has something to sell—brains, skill, time, or goods—and must appeal to the purchaser, either by his personality, by advertising, or by the exhibition of his goods. The seller must know how to



Mr. T. O. BARLOW.

present his goods to receive favourable attention, how to offer a logical statement in their favour, how to develop his abilities, how to maintain his health, what to avoid. He must understand bookkeeping, the collection of money, the working of systems of storage and stockkeeping, and how to prepare advertisement. These, and a great many other matters, have been classified by men of large experience into a business science. As shown diagrammatically, a sale can be divided into three

parts—the seller, the goods, and the buyer—and in this paper these are discussed seriatim:



THE SELLER.

Dealing first with the seller, the author referred to the personal attributes which he should possess, or which should be cultivated if they are absent. His place of business must be kept tidy, and some system must be used for stockkeeping. The laws of health, in regard to the seller's personality, must be respected, and it is necessary to devote his mind to the study of the goods he has for sale, so as to be able to place all the points before the buyer in a clear and forceful manner. Good service includes the salesman's advice as an expert, guidance in selection, and a description of the advantages and peculiarities. It precludes misrepresentation and exorbitant charges. Good intelligent service will always draw business, and therefore means greater profit. The necessity was also emphasised of a business policy—what the seller is setting out to sell, and how he proposes to sell it.

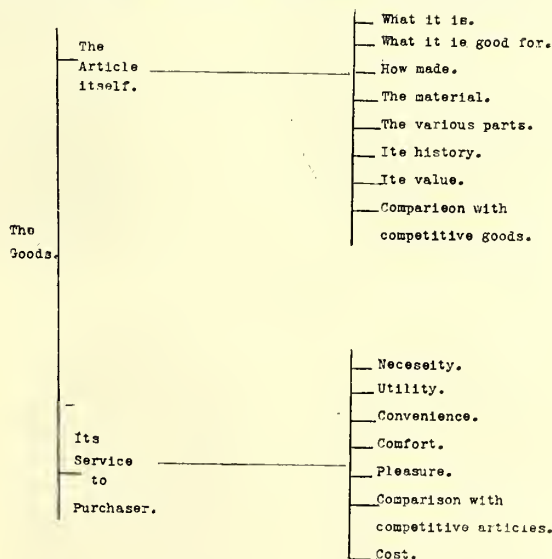
THE GOODS.

The selection of the goods should be in accordance with the seller's character and inclinations. One prefers a scientific subject, another country life, another has no patience with anything outside the general run of town life. Whichever it is, it will pay him to follow, because he is more in sympathy with his subject, can speak more earnestly, and make a far better appeal to that particular section. Failures occur most frequently among those who lack interest in their vocation or the goods they sell.

The first thing to do after choosing the goods is to pack or prepare them for sale carefully and well in packages that will attract favourable attention. This precludes gaudy, grotesque, and unsuitable containers, and demands a package that will appeal to a customer by its suitability and general "get-up."

The second care is that the contents are right in quality and condition. The package may help to sell the goods, but it is the contents that make the "repeater."

In regard to the actual selling, the seller must know all there is to be known about the goods, and thus be able to frame a logical statement of their merits. This part of the subject can also be shown analytically:



If the seller has employes, let them understand his analysis, be carefully trained in his general policy, and possess all the information he can give them about the goods, so that he has uniformity throughout in the treatment of customers. He should make sure that in presenting an article they do so with due care. The man who throws it down before the customer will never count for so much as the one who handles it with respect, and offers it for the customer's inspection as

an article of quality, no matter what the price may be. Teach them to present the qualities and service-value of the goods first, so that these may assume a correct proportion with regard to the price.

THE BUYER.

The seller should be able to discover the type of man he is dealing with. The quickest and readiest way is to read his character from his face and manner. The result will provide the line of least resistance for the salesman to travel. By closer study of the various types he can more quickly determine the methods to follow to arouse interest to the buying-point.

WHAT TO AVOID.

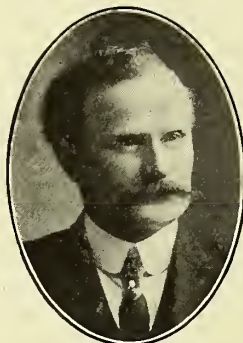
The seller should avoid extravagant claims. He should avoid unfair criticism of a competitor or com-

petitive goods. He must not argue. He must not talk too much. He should avoid discussing other people's business. He must avoid tendering advice to the buyer who is impatient of any advice.

The author then considered the question of the relation of business science to pharmacy and the Conference. He contended that the laws of business conscientiously carried out will make pharmacists keener, brighter, and more capable, and that business science enters into every division of the constitution of the Conference. He referred also to the outside view of pharmacists as shown in caricatures which exhibit none of the attributes of the business man. A chemist should realise that when he has passed his examinations his training is only commencing.



MR. JOHN MILLING.



MR. S. CHEERS.



MR. D. WILLIAMS.



MR. T. CARTER.



MR. W. F. J. SHEPHERD.



MR. J. H. HOPLEY.



MR. R. CECIL OWEN.



MR. W. DUPLOCK.



MR. JOHN SIMON.



MR. RANDALL ROBERTS.



MR. J. P. CRAINE.

Members of the Chester Local Committee.

The Proceedings

ALL doubts as to the prevalence of favourable weather conditions were dispelled when it was found on Tuesday morning that rain had ceased falling. As the morning advanced the sultry and misty condition of the atmosphere gave place to brilliant sunshine, and this placed everybody in a happy frame of mind.

The sessions of the Conference were held in the handsome ballroom of the Grosvenor Hotel, the polished floor being covered by carpets. At one end a platform was erected, and upon this was a long table for the officials of the Conference.

The proceedings were to have commenced at 9.30 A.M., but it was a few minutes later before the members and their friends had taken their places. In the meantime, the Mayor of Chester (Alderman John M. Frost) had arrived, and was chatting with Mr. Farr (the President) and Mr. Shepherd (the Chairman of the Local Committee).

Taking their places at the platform table, on the right the President sat the Mayor, Mr. T. H. W. Idris, C.S., Mr. D. Lloyd Howard, F.C.S., Mr. W. A. H. Taylor, F.I.C., Mr. W. F. J. Shepherd, F.C.S., Mr. A. Hill, B.Sc., F.I.C., and Mr. Thomas Tyrer, F.I.C. To the left of the President sat the two Secretaries, Mr. J. Finmore, B.Sc., and Mr. R. R. Bennett, B.Sc., and next to them Dr. Symes, Mr. W. F. Wells, Mr. E. S. Clark, M.A., and Mr. D. M. Watson (President of the Pharmaceutical Society of Ireland).

The room was comfortably filled, about 250 people being present.

A CIVIC WELCOME.

THE PRESIDENT, who was loudly cheered on rising, called on the Mayor of Chester to speak.

THE MAYOR OF CHESTER (Alderman John M. Frost), wearing his chain of office, extended a warm welcome to the Conference. His Worship, who was cordially received, said: Mr. President, Ladies and Gentlemen,—It is with great pleasure, as the senior magistrate of Chester, to give you and your Conference a great welcome to our city. It is one, I feel sure, the citizens will join with me in extending, also in the pleasure it is in meeting you here this week. Our natural attractions are great, and I hope they will be of pleasure to you during your stay. We likewise have many historical traditions, and trust that during your time here you will see and learn many of them. On many occasions you have met in the city at various centres of education, or else in cities containing a university within their boundaries. These are very appropriate and proper places to meet in, yet for all that the ancient city of Chester, I am sure, will give you, in every direction, food for thought by its picturesque appearance. The British Pharmaceutical Conference has had a successful career of fifty-one years, and by its power has promoted and contributed information in various directions pertaining to its problems and profession, besides acquiring knowledge for its members. Questions from time to time come before you that are of benefit to the health of the nation. Therefore the community at large should appreciate the investigations and good results of your learned profession, and recognise the importance of the work you do for their protection. Although very important of the subjects of your Conference, I cannot

help but feel that I, with others, receive great benefits from your scientific training and research. Under the able guidance of the local Reception Committee I hope an enjoyable and profitable time will be spent in Chester and worthy of the occasion, and that you will carry home with you many pleasant recollections of your visit. (Applause.)

THE PRESIDENT'S THANKS.

THE PRESIDENT said: I am sure it will be your wish to join in thanking his Worship the Mayor for his kind address of welcome to us, and at the same time for the magnificent reception accorded us last evening. (Applause.) In every direction our tastes were catered for. Microscopically, the lectures on the ancient history and on the features of the streets were most appreciated by our members, and the whole proceedings were a perfect enjoyment. We



THE GROSVENOR HOTEL.
(Headquarters of the Conference.)

are sincerely grateful to the Mayor, also to the gentlemen who took part in entertaining us. (Hear, hear.) Professor Newstead I would mention in particular, also Mr. Simpson, who gave the lectures. I hope that our thanks will be accorded to them. (Applause.)

The Right Worshipful the Mayor then left the Conference amid applause.

LOCAL COMMITTEE'S GREETINGS.

Mr. W. F. J. SHEPHEARD, Chairman of the Local Committee, remarked: It gives me much pleasure, on behalf of the Local Committee, to extend to you a most hearty

welcome to Chester for the Conference meeting this year. We are delighted to see you here, and trust we shall prove ourselves worthy of your confidence by carrying out the arrangements to your entire satisfaction. This is the first time that Chester has been honoured with a meeting of the Conference, but eighteen years ago, when it was held in Liverpool, the members visited Chester and drove to Eaton and Hawarden for their day excursion. There are some members present to-day who were here on that occasion, but I do not think that they would have found out all there was to learn and see in Chester and its vicinity on that single occasion. Therefore I must conclude that what they saw then pleased them, and that is one reason for coming again this year. (Hear, hear.) The Local Committee have prepared a programme which, I hope, will be approved of generally and be the means of entertaining the members intellectually, socially, and in a sporting manner. As you will have seen from the programmes sent you, ladies' excursions will be made to places of interest in the city. The Precentor (the Rev. H. H. Wright, M.A.) has kindly undertaken to show you over the Cathedral, and Mr. F. Simpson, F.S.A., whom you heard last evening, and the lady stewards will act as guides and explain the history attached to the other parts of the city which will be shown to you. Of the river Dee we Cestrians are very proud, and I think, after seeing it, you will agree the Dee is a very pretty river. (Mr. Shepherd then detailed the excursions and several alterations made, and added): When I had the honour last year in London of inviting you to Chester I told you we could not entertain you in the lavish way London and the larger cities could, and I know you did not expect it; but I can assure you that what we have provided in our humble way has been done in a true spirit of welcome and hospitality. (Applause.) I hope you will all accept it in that spirit with our best wishes for a most successful and enjoyable meeting. (Applause.)

The President thanked Mr. Shepherd and the other members of the Local Committee for the great amount of work they had put in on behalf of the Conference, also for the magnificent reception they were giving them. Mr. Farr added: The arrangement of a programme for the Conference presents a very great difficulty because of the thousand-and-one details that have to be gone into. Practically they have to go over the ground to see the time it takes, and there are no end of committee-meetings, hours and hours having to be put in. I believe the ladies are apt to look upon these committee-meetings with a certain amount of suspicion. They think that mere men meet together just for a lot of talking with perhaps a few whiskies and cigars—(laughter)—and altogether have rather a good time. But there is the other side of the question. In arranging a programme there is an immense amount of work to be done and, of course, everyone must take a more or less part in the actual work, because it would not be possible for one alone to do the whole of it. I am sure it will be your wish to accord to the Local Committee our very best thanks for the splendid programme they have put together for our enjoyment. (Applause.)

The President at this point delivered his address (p. 162).

THANKING THE PRESIDENT.

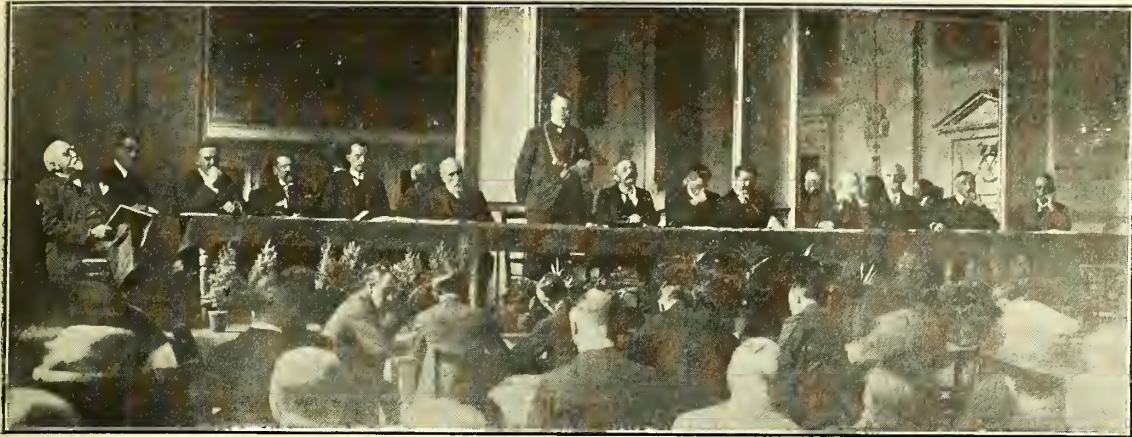
The President's address, which took thirty-five minutes in delivery, finished amid the plaudits of the assembly, and

Dr. CHARLES SYMES rose and said: As the senior past President of the Conference it is my duty, and I am sure it is a very great pleasure, to move a vote of thanks to the President for his exceedingly able address. I am sure we have listened to it with the greatest possible pleasure. Mr. Farr is well known to us as a worker. We all look on him as a friend to pharmacy, who has done yeoman work for the advancement of our calling, and although it may not come immediately to be recognised by all of us in our daily work, the results of his work do reflect on our work and help us to do it more thoroughly and more completely because we use drugs which have been investigated by Mr. Farr and others, but Mr. Farr pre-eminently, and are thus enabled to use drugs in which we have every confidence and which are of the best

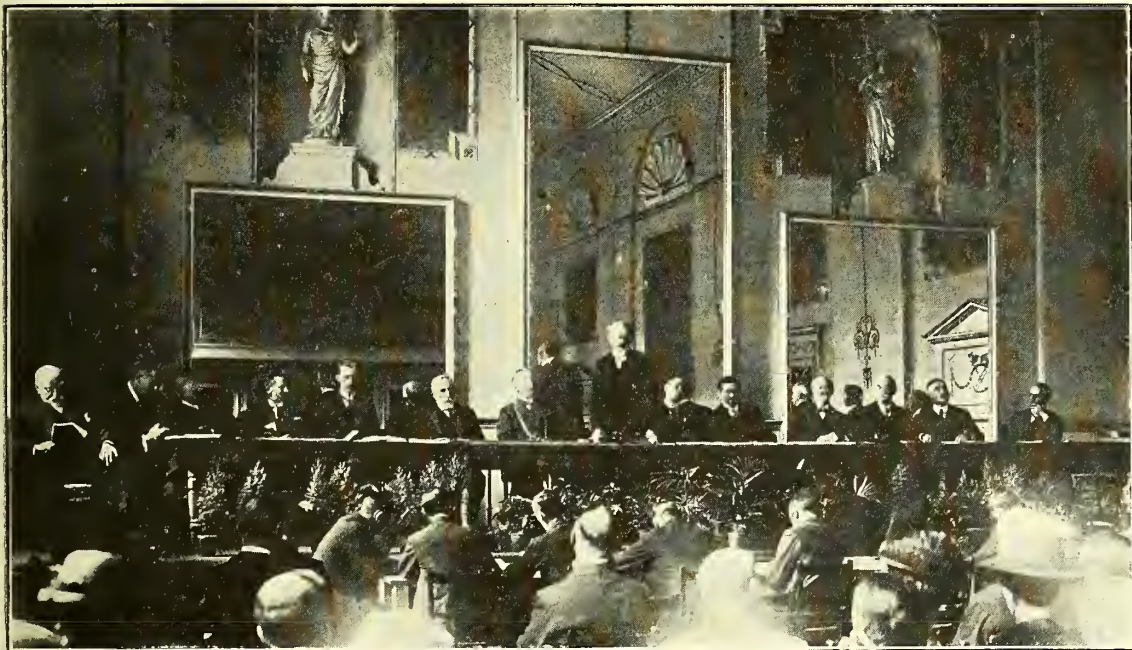
of their kind. Mr. Farr's address is one we cannot criticise—it is not customary to criticise the President's address—and I suppose few of us are able to criticise if it were customary to so do, but I have been deeply interested in it. It reminds me of many years ago, when a controversy existed between Mr. Greenish, father of the present Professor Greenish, and myself as to whether these results, these alcoholic products, and the medicinal subjects which were developed were the results of destructive decomposition, the breaking down of the plant, or whether it was constructive, I holding it was constructive, and he that it was destructive. I am rather inclined to think from Mr. Farr's paper to-day that I am right, and that a plant builds up these products, and not that they come about as the result of decomposition and the ultimate death of the plant. I did a considerable amount of work on taraxacum at one time with a view of isolating taraxacin. Perhaps our President will tell us there was no such thing as taraxacin, things change so much. But I found the most vigorous time of a plant's life was not always the time when the medicinal substance was found in larger quantity. On the other hand, if the destructive theory had been correct it should always be found at the end of the plant's life, which is not the case. I have been very much interested in the whole address, and I am sure you have listened to it with great pleasure, and we shall be able to read it afterwards and ponder over it. I am sure I shall do so with a great deal of pleasure and a great deal of information. I am sure you feel with me we are deeply indebted to a man who not only works well in investigation, but also as a successful pharmacist. He has told us so much work has to be done, either at the cost of the wholesale manufacturers, and to find food for the manufacturers of Pharmacopoeias who very often know very little about it otherwise from what they gather, or it has to be done by private workers. In the present day the demands on one's calling are so great there is a great danger of private investigation becoming a thing of the past. Mr. Farr is an example of a man who can carry on a successful pharmacy and do ably an abundant amount of work. He must be an industrious man doing the large amount of work for the good of pharmacy and investigating the nature and quality of plant life. I am sure it is your pleasure to give the vote of thanks. (Applause.)

Mr. T. H. W. IDRIS, seconding the vote of thanks, said: The last speaker has said so well just what I thought of saying, that I need not add any more than heartily endorse every word he has said. The choice of the subject is one that reflects honour upon pharmacy, and, as Dr. Symes has told you, the President is a man who is known by his charming personality to those who know him, and those who do not know him have heard of him, and never heard anything but good of him. (Hear, hear.) I have great pleasure indeed in seconding the proposition. (Applause.)

Mr. W. A. H. NAYLOR said: It is my proud privilege to have been invited this morning to commend to you this vote of thanks. It has been proposed by the Senior Past President, Dr. Symes, and seconded by Mr. Idris. Those gentlemen have not ventured to detail the qualities possessed by our President, and to that extent I will emulate them. One thing I feel certain is we shall all appreciate this in connection not only with the address, but with the pharmaceutical history, if I may so say, of our President. Fortunately, or happily perhaps I should say, he had not to go far [r] before he met with a [W] right colleague. (Applause and laughter.) It rather strikes me, if he will allow me to adopt it, that in point of fidelity as fellow-workers and mutual respect, they promise to be as closely allied as pharmaceutical investigators in the future—I do not know whether I ought to mention these names—as a certain couple well known in the domain of domesticity. I am afraid you do not know the names of the couple, but I will leave it to you. If genius may be defined as an infinite capacity for taking pains, then I say that our President deservedly ranks as such. (Hear, hear.) I have the utmost pleasure in presenting to you this vote



THE MAYOR DELIVERING HIS ADDRESS OF WELCOME TO THE CONFERENCE.



THE PRESIDENT DELIVERING HIS OPENING SPEECH.

Names, left to right (in both photographs): T. Tyrer, C. A. Hill, W. F. J. Sheppard, W. A. H. Naylor, T. H. W. Idris, The Mayor, The President (standing), H. Finnemore, R. R. Bennett, Dr. Chas. Symes, W. F. Wells, E. S. Peck, D. M. Watson.
(The Photographs of the Platform were taken by our artist, Mr. Cleworth, by Special Permission.)



A CONFERENCE PARTY AT THE BOWLING GREEN.

Standing—Mr. Clenys Jones, Mrs. Woolman, Mr. J. T. Appleton, Miss Mumford, Mrs. Cecil Owen, Mrs. Hopley, Mr. George Bunson, Mrs. Dickinson, Mr. Percy D. Burr. Seated—Mr. John Simon, Mrs. John Simon, Mr. J. H. Hopley, Mrs. Carter, Mr. A. Elder.

[Photo: T. Cleworth]

of thanks, and in asking you, not only to accept it with unanimity, but with considerable acclamation.

The motion was carried with great cordiality.

The PRESIDENT, in reply, said: I thank you very much for your appreciative and all too flattering remarks about myself and my work in connection with Mr. Wright, and otherwise, and I thank you all for your patience in listening to my address. Of course, the presidential address is a sort of necessary infliction, and I thank you very much for the patience you have shown. (Applause.)

APOLOGIES FOR ABSENCE.

The senior Secretary (Mr. Finnemore) then stated that letters and telegrams of apology for absence had been received from Mr. R. Wright (Buxton), Mr. E. White (London), Mr. F. C. J. Bird (London), Mr. J. C. Umney (London), Mr. W. Kirkby (Manchester), Mr. N. H. Martin (Newcastle-upon-Tyne), Professor H. G. Greenish (London), Mr. E. F. Harrison (London), Mr. Peter MacEwan (London), and Mr. Francis Ransom (Hitchin).

FINANCIAL REPORT.

The HON. TREASURER (Mr. D. Lloyd Howard) then presented his report, which this year shows that there is a small balance (3s. 7d.) on the year's work. Last year there was a deficiency of 7l. 17s. 10d., which has been wiped out. The receipts were as follows: Members' subscriptions, 392l. 7s. 9d. (374l. 19s. 2d. the previous year); sale of "Year-book," etc., 25l. 16s. 3d.; advertisements in "Year-book," 64l. 7s. 8d.; donation, 1l. 1s.; bank interest, 1l. 18s. 3d.—a total of 485l. 10s. 11d. The expenses during 1913 include cost of "Year-book," 268l. 8s. 3d.; commission on advertisements, 15l. 19s.; Editor's salary, 75l.; secretarial expenses, 36l. 5s.; postages and sundries, 18l. 13s. 9d.; printing, stationery, etc., 34l. 18s. 2d.; entertainment of foreign visitors, 16l. 16s.; advertisements in "Pharmaceutical Journal," 6l.; foreign journals, 2l. 17s.; subscription to American Chemical Society, 2l. 12s. 1d.; and bank charge, 3d., which, with the deficit balance brought forward (7l. 17s. 10d.), leaves a balance of 3s. 7d. to carry forward. Particulars were also given of the Bell and Hills Fund (23l. 3s. 5d.) and the Research Fund (18l. 12s.).

Mr. Howard commented on the report, and called attention to the fact that, although the expenses were larger, it had been possible to wipe out a deficit of over 7l., and finish with a small credit balance. It would be noticed that a small amount had been received in the form of interest from the bank. He further stated that the work of the Conference would be much helped if members would pay their subscriptions as early in the year as possible. In this way the Treasurer is enabled to place money on deposit with the bank, and the members would have the satisfaction of knowing that they are contributing even more than their subscription to the funds of the Conference. The number of unpaid subscriptions, although less than at the same period last year, is still considerable, and he hoped that members who know of any other member whose subscription is unpaid will see that the money is forthcoming. The "Year-book" is a work of immense value for those who wish to keep abreast of the times. His (the speaker's) firm have a set in the works library, and find it necessary very often to refer to it. The Bell and Hills' Fund is larger this year than last, owing to the fact that, as the Conference met in London last year, no grant for books was required. In regard to the Research Fund, Mr. Howard said this is meant for use, and not to remain idle in the Treasurer's hands. Members engaged in research are invited to send in applications for grants from the Fund.

At this stage of the proceedings, the ladies and their escorts withdrew for the Ladies' Excursion round the city walls and the Cathedral. There remained about fifty men for the rest of the morning's proceedings.

The members having come closer to the platform, Mr. THOS. TYRER proposed the adoption of the Treasurer's report. He had great pleasure in doing this,

because of the fact that he had known Mr. Howard's father since 1861, when he was a fellow-student at the old Royal College of Science. He (the speaker) had followed the career of Mr. Lloyd Howard very closely, and was glad to see that he was following in the steps of his father and other members of the Howard family. Another reason why he was glad to propose the adoption of the Treasurer's report was that, as a Treasurer of the Society of Chemical Industry of thirty years' standing, for the last few years with over 20,000l. a year passing through his hands, he recognised in Mr. Howard the signs of a careful Treasurer. There is such an inclination to give way to any requests for money that Treasurers are often apt to forget that they are trustees. Mr. Howard has shown that, however small the amount in his charge, he recognises the value of the deposit. In the case of the Society of Chemical Industry, a large sum is obtained as interest on bank deposits, the money being received fairly regularly during three or four months of the year. He was glad to see that the Treasurer has recognised the important principle of the bank deposit.

Mr. J. R. HILL, in seconding the motion, said he felt safe in following a leader like Mr. Tyrer, but so exhaustively had he treated the subject that there was little else to be said. He was delighted that the "Year-book" is maintaining its position and increasing in value from year to year.

The PRESIDENT then formally put the motion to the meeting, and it was unanimously agreed to.

EXECUTIVE REPORT.

Mr. FINNEMORE then read the annual report of the Executive of the Conference, as follows:

In presenting its fifty-first annual report, the Executive Committee desires to extend a hearty welcome to the ninety-five new members who have been elected since the Jubilee meeting held in London last July. The Executive further desires to record the continued popularity of the Conference, and to express its appreciation of the hospitality which pharmacists continue to extend to their fellow-members.

The Executive was pleased to note the cordial welcome which was extended to the delegates from this Conference by the members of the International Congress at The Hague in September last year. It was encouraging to find that Continental pharmacists do appreciate very highly the work of the Conference, and particularly gratifying to note their esteem for the "Year-book of Pharmacy."

The Executive desires to express its appreciation of the loyal service rendered by Mr. J. O. Braithwaite, Editor of the "Year-book" abstracts. Owing to the pressure of other engagements, Mr. Gamble has resigned his charge of the section in the "Year-book" devoted to New Remedies. The Executive desires to thank him for his ungrudging labour in this section since its inception two years ago. Mr. Thomas Stephenson has consented to act as his successor.

An invitation has been addressed to the pharmacists in Chester and the surrounding districts, and has resulted in the accession of over fifty new members.

Chiefly through the personal interest of Mr. Harry Wilson, to whom the Executive desires to express its indebtedness, a larger number of advertisements have been secured for the forthcoming "Year-book" and it is expected that the revenue from this source will be substantially increased.

The Research Sub-Committee, consisting of Messrs. E. H. Farr, F. W. Gamble, C. H. Hampshire, E. F. Harrison, C. A. Hill, E. M. Holmes, H. Finnemore, and R. R. Bennett, has been occupied chiefly in arranging the details of the collaboration in research between members of the Conference and the British Medical Association, which was foreshadowed in the report of the Executive for 1913. The Research Sub-Committee, having drawn up a list of subjects which require investigation from the medical side before any progress can be made on the chemical and pharmaceutical aspect, appointed delegates who conferred with the Therapeutic Sub-Committee of the British Medical Association, with the result that practically all the subjects suggested have been allocated to a medical and a pharmaceutical worker, who will work in collaboration. It is confidently expected that some of the results will be reported at the next annual meeting of the Conference. It was further decided that the medical members of this joint-meeting should submit their requirements for new or

improved forms of administering drugs to the Pharmaceutical Section.

The Practice Section Sub-Committee, consisting of Messrs. E. H. Farr, T. O. Barlow, H. Finnemore, E. F. Harrison, E. Saville Peck, T. Stephenson, J. A. Thomas, G. Whitfield, and R. R. Bennett, has arranged two papers for the present meeting which, it is anticipated, will provoke interesting discussions and lead to useful results. For the first time since its inauguration it has been arranged that, if necessary, one of the meetings of this Section shall be held simultaneously with the Science Section.

The Executive extends the heartiest welcome to Messrs. Francis Longmore, G. Pleasance, and J. A. Walker, three Australian pharmacists who are present at this meeting. It begs them to convey the greetings of this body to their colleagues in the Commonwealth.

The Executive notes with great pleasure that an invitation to meet at Scarborough in 1915 will be offered at the present meeting.

The grateful thanks of the Conference are due to the Pharmaceutical Society for providing a room for the meetings of the Executive, and to the Editor of the "Pharmaceutical Journal" for copies of papers to be read at this meeting.

Mr. D. M. WATSON, in moving the adoption of the report, said it was hardly necessary to do so, except formally. All the members recognised the good work that the Executive has done during the year. He welcomed the suggested collaboration of the Conference with the British Medical Association, and thought this should bring splendid results.

Mr. HARRY KEMP seconded the resolution, which, he said, requires no commendation. He thought it a very satisfactory report, and hoped that the number of members who have left is not so large as the accessions.

The PRESIDENT put the resolution to the meeting, and it was carried by acclamation.

DELEGATES TO THE CONFERENCE.

The JUNIOR SECRETARY (Mr. R. R. Bennett) then read the list of delegates, as follows:

Chemists' Assistants', Devon, Doncaster, Dover, Edinburgh Assistants', Essex County, Essex S.E., Exeter, Lancaster, Leeds, Liverpool, London County, Oxford, Manchester, Newcastle, North London, Norwich, Nottingham, Portsmouth, Scarborough, Sheffield, Southampton, Thames Valley, Western Pharmacists' (London), Wimbledon, Wrexham, and Wolverhampton; also Kent, Tunbridge Wells, and Public Pharmacists' Associations.

The names of delegates are included in the list of those who were there, printed later.

The PRESIDENT added that he was grateful for the way the delegates had supported the Conference.

First Scientific Session.

It was now 11.5 A.M., and the President called on Mr. D. B. DOTT to read his paper (printed on p. 167) on

THE ESTIMATION OF STRYCHNINE IN THE PRESENCE OF BRUCINE.

DISCUSSION.

The PRESIDENT said he believed that the separation of these alkaloids by means of nitric acid would be official in the next Pharmacopœia, and it would be useful for them to know exactly how best to carry it out.

Mr. DEANE said that some three or four years ago he published his experiences with the process anonymously. He found that he obtained uniform results at the ordinary temperature in summer, but that in winter the results varied owing to the lower temperature.

Mr. DOTT, in reply, said he had found this method of applying this separation satisfactory both in summer and in winter. He would mention that the temperature always rises on adding the nitric acid. In regard to winter temperature, his laboratory is always of a uniform temperature, as he has steam-pipes in winter.

The PRESIDENT briefly thanked Mr. Dott for his paper.

ADULTERATION OF BELLADONNA-LEAVES.

Mr. HAROLD DEANE then read the paper (printed on p. 175) by Mr. G. Stafford Allen and himself on this subject.

DISCUSSION.

The PRESIDENT said they were very much obliged for this interesting paper. They were at the mercy of those

who supply drugs commercially in this matter. It was news to him that the leaves were so much adulterated, and it was bound to affect adversely the alkaloidal content. Some years ago he had found 1 per cent. of alkaloids in a sample of home-grown leaves, but foreign leaves contained only about half that.

Mr. H. STILES said he had worked on this matter at the request of Mr. Holmes, and while he had not identified aianthus as the adulterant, he was satisfied that it was not phytolacca. Parke, Davis & Co. who supplied the speaker with the specimens upon which he worked, were of opinion that the extraneous substance present was phytolacca.

Mr. DEANE, in reply said that in 1908 Collin identified the adulterant as phytolacca, and Miltacher, in 1911, also came to the same conclusion. The specimens to which Miltacher referred were openly sold as *folia utenda pro belladonna*.

The author was thanked for his paper.

STRYCHNINE AND ALKALIES.

Mr. FINNEMORE then read the paper by himself and Mr. E. Williamson on "The Incompatibility of Strychnine and Nux Vomica with Alkalies and with Bromides and Iodides," which is printed on p. 167. Before this was discussed he also read the paper (see p. 170) on "The Rate of Dialysis of Alkaloids in Aqueous Solution and in the Form of Galenicals."

DISCUSSION.

The papers were discussed together.

The PRESIDENT said the two papers were of great interest, and the second one is of very great importance, as it explains certain differences which have been observed in the action of galenicals and active principles. One school of medical thought holds that there is no place for galenicals while pure alkaloids can be obtained, and another holds that there are important differences in action between galenicals and active principles. It seems, from Mr. Finnemore's paper, that those who employed galenicals were the most careful workers. It is a very feasible explanation that the difference in action is almost all due to the fact that the alkaloid in the natural state exists as a colloidal salt. The absorption-rate of a chemical salt, strychnine in particular, is entirely different from that of a galenical. The chemical salt is cumulative, whereas the same amount of alkaloid employed as a galenical acts slower, gradually, and more evenly. Of course, where immediate action is required, such as in hypodermic medication, the alkaloid is best employed. The suggestion of the colloidal state is a valuable one, and it behoves medical men to see how the knowledge can be utilised to the best advantage. It should be remembered that there is a tendency to break up the colloidal condition on adding certain saline bodies. The colloidal state has an important bearing on the persistent emulsions that are sometimes encountered in alkaloidal determinations.

Mr. F. W. GAMBLE protested against too much importance being attached to the colloidal state. Such statements are often a cloak for ignorance—(laughter)—not in the present case, however. He thought the difference is due to the strychnine being in combination with the natural organic acids in the case of galenicals. It may be that the high molecular weight and lower rate of dialysis accounts for the difference compared with ordinary salts. There is a tendency to attribute too much to the colloidal state, as in the case of metals. He hoped Mr. Finnemore would not let the matter drop, but would continue his investigations with other galenicals than nux vomica. If pharmacological action depends upon the rate of absorption, it follows that the physician would order galenical preparations of nux vomica where prolonged slow action is required, but for rapid absorption solution of strychnine would be employed.

Mr. J. R. HILL said this is a very interesting communication from the point of view of the dispenser, and it is a class of paper of which they do not get enough. In cases of this kind one has to be very certain that there will be no precipitation of alkaloid. Precipitation may be delayed, and the dispenser may be misled into a false feeling of security. In the hands of the patient also the

medicine is often kept at a much lower temperature than that of the dispensary. He knew of a case in which a mixture had been kept at a temperature below 0° C., and in which precipitation took place, when it should not have done so from the data given in the paper. A small quantity of alcohol has a great effect in preventing precipitation. The other constituents of the mixture, especially bromides and iodides, also have a great influence in the precipitation of the alkaloids. Another source of difficulty not touched upon in the paper is that when spirit of chloroform is present in a mixture of this kind in such quantity that globules of chloroform separate, there is a danger that the chloroform will carry down the separated alkaloid, and the patient may get the whole of the precipitated alkaloid in the last dose. Such a case had come to his notice.

Mr. H. WIPPEL GADD said he was glad to see that Mr. Finnmere had had the courage to recant opinions to which he had given utterance in public. (Laughter.) He had heard the author of the paper state that alkaloidal solutions should be used on the ground of cheapness. He (the speaker) was glad to see that Mr. Finnmere had convinced himself that there is a difference in action, but whether this is due to the colloidal state or to the combination with organic acids is a point of difference.

Dr. J. C. MCWALTER regarded the two papers as epoch-making, although they are opposite in some respects. The dialysis paper seems to demonstrate what every pharmacist and physician has observed—that there is a distinct difference between the pharmacological action of a galenical and its active principle. There may be several active principles of one drug. Not only does Mr. Finnmere show that there is an essential difference, but the reason for it. No doubt most people have observed that a dose of caffeine citrate relieves headache much quicker than the same dose of caffeine taken as a cup of tea, but that the effects of the latter, if slower, are more permanent. Salvarsan is another example of the action of a virulent poison being profoundly modified by its combination. Here one sees an arsenical compound corresponding to about $\frac{2}{3}$ grain of arsenic being administered with comparative safety, whereas the same amount of arsenic on an empty stomach would produce grave symptoms of poisoning. It is the essence of pharmacology in "606" that it is possible to introduce enormous doses of a poison when it is in union with certain substances which are colloidal and prevent it entering into solution and acting on the brain and spinal cord. Galenicals enter the blood slowly, alkaloids at once. In regard to the paper on the incompatibility of strychnine with alkalies, he did not observe that the author had noted the action of light as an important factor as an accelerator of chemical action. One could not be too dogmatic in such cases. He recalled a case of a prescription containing liq. strychn. 5j., potass. iodid. 5j., sodii bicarb. 3ij. in inf. gent., which a chemist refused to dispense, as he said it would be poisonous. The doctor consulted the speaker, who had great difficulty in holding the scales, so that neither the medical man nor the chemist was libelled. As a matter of fact, no precipitate was obtained in the mixture, which only shows that one should be careful in giving an opinion as to what will happen in a certain mixture.

Dr. CHAS. SYMES said some years ago he looked into the problem in consequence of the unexpected crystallisation of a mixture containing strychnine and an alkali. He found great difficulty in obtaining indications as to the conditions required to obtain the precipitate. In consequence, he always made it a practice in his business to label such mixtures "Shake the bottle." In regard to the dialysis experiments, they should bear in mind that parchment paper does not really represent what goes on in the system. Medical men have often told him that they get very different results with tincture of cinchona and tincture of nux vomica than they do with quinine and strychnine.

Mr. C. A. HILLS suggested that the author should try experiments with strychnine in combination with other acids than hydrochloric. If an organic acid of high molecular weight were employed, there might be shown a difference in the rate of dialysis.

Mr. E. S. PECK said the thanks of the ordinary practising pharmacist are due to the authors of the papers. He would like to ask that authors when reading their papers should not shorten their remarks too much, as by omitting all detail there is often not sufficient data left for argument. He asked whether Mr. Finnmere calculated what proportion of the alkaloid was precipitated in the time mentioned. The paper is an argument against concentrated mixtures. The last recommendation in the paper on the incompatibility of strychnine in alkalies should be addressed to medical men.

Mr. T. O. BARLOW said the question raised in the second paper often arises in practice.

Mr. BRYANT said that although the difference in the action of a galenical is held to be due to the colloidal state of the salt, he thought that the sugars and resins in the galenical have a profound modifying action on drugs.

Mr. HARRY KEMP asked what is the good of such an investigation if medical men still continue to prescribe anyhow they like. He noticed that it has been held by an Insurance Committee that a pharmacist must dispense whatever a medical man prescribes, and in whatever quantity it is ordered. "Why," added Mr. Kemp, "if that were done, thousands of people who are walking about to-day would be beneath the ground."

Mr. DEANE said there is the possibility that the deposition of fatty and extractive matter on the dialyser when the alcohol is removed would alter the rate of dialysis.

Mr. THOMAS advocated that such questions as this should be discussed between medical men and chemists.

Mr. R. R. BENNETT said he was puzzled by one of the figures in Mr. Finnmere's table, which seems to bring into question the solubility of strychnine, usually placed at 1 in 5,000. The case referred to is where a deposit was obtained in thirty-three days from a mixture containing liq. strychn. mv., sodium bicarbonate 15 grs., in water 1 oz. This may be due to the formation of a carbonate of the alkali.

Mr. FINNMERE, in reply, said he was much obliged to the President for supplying his omissions. In reply to Mr. Gamble, he was quite aware that when they did not know a thing they cloaked their ignorance with a term, but in spite of what Mr. Gamble said, there are such things as colloids. It is, however, possible that the alkaloid is combined as a glucoside. He had on hand an experiment with strychnine salicylate on the lines of Mr. C. A. Hill's suggestion. Replying to Mr. J. Rutherford Hill, he would say that when one considers the danger in these mixtures, one is justified in taking elaborate precautions in dispensing. Patients are in the habit of taking a few doses of a mixture, and the mixture is then set aside perhaps for weeks, and is then used again, when considerable changes may have taken place. In reply to Mr. Gadd, he "recanted nothing, and what he had said he had said." This investigation had revealed to him things he has not suspected, and he was prepared to say what he had found. He kept an open mind on the subject, and was open to conviction. Dr. McWalter had referred to the question of the difference in the action of caffeine and a cup of tea. He would include this in his experiments. With regard to what Dr. Symes had said about using a "Shake-the-bottle" label, the bottle should be shaken every day, as if left for a week the crystals are fairly large. With respect to Mr. Peck's question, they had not determined the amount of strychnine in the cases reported upon, as they had made up 120 mixtures in the course of the investigations, and it would not have been possible to determine them all. Replying to Mr. Bryant: In the course of the work he had put strychnine into an infusion of hay, to imitate, as far as possible, the inert material present in the galenical preparations of nux vomica, and he intended to proceed with these experiments. He could not say, from these experiments, that there is a safe margin, as the conditions have a great deal of influence. Medical men take the view they do because pharmacists neglect such experimental work as is given in this paper. If pharmacists would carry out work of this kind, and show the results to medical men, it would carry great weight. Mr. Bennett

I asked a question that involved the question of the solubility of strychnine. The results of his experiments (still incomplete) indicated that the solubility of strychnine is less than is commonly stated in books of reference. He had not, however, determined the solubility of strychnine in a solution of bicarbonate of soda.

The authors were thanked for their paper.

These papers and the discussion had occupied nearly an hour, and it was 12.19 when the PRESIDENT called upon Mr. C. A. HILL to read the paper by Messrs. T. Tusting Peck and James D. Kettle on

THE ANALYTICAL CHARACTERS OF BENZOIN.

This paper is printed on p. 173. In the discussion that followed the reading,

Mr. W. A. H. NAYLOR said the paper is an important contribution to the subject of the constituent acids of benzoïn. Authorities have differed in this matter. One states that Siam benzoïn contains no benzoic acid, and another that it contains no cinnamic acid. It is clear from the results given by the authors that neither statement is quite correct, as it is shown that Siam benzoïn contains both acids. This is a matter of importance when it is remembered that balsam of tolu is regarded as a remedy of some importance on account of the cinnamic acid it contains.

Mr. FINNEMORE asked whether the authors had actually isolated the two acids and identified them by their characters.

Mr. C. A. HILL, in reply, said that the table proves cinnamic acid to be present in Siam benzoïn, although it is stated that the amount was too small to allow of the qualitative test being applied to the benzoïn itself. The test was applied to the mixed acids. Mr. Hill handed out for inspection a sample of the benzoïn actually employed in the experiments, and he also called attention to the large amount insoluble in 90-per-cent. alcohol, a factor of importance in fixing the limits in a Pharmacopœia. He was not able to state whether the authors took the melting-point of the crystallised acids.

The authors and Mr. Hill were thanked for the paper.

MINERAL CONSTITUENTS OF DRUGS.

The PRESIDENT called on Dr. S. JUDD LEWIS to read his paper (printed on p. 168) entitled "The Mineral Constituents of Certain Tinctures and Drugs." In the discussion that followed the PRESIDENT said he was surprised to find the wide distribution of so many elements in the plants examined. He remarked also that certain of the salts, such as lithium, potassium, and magnesium and their salts, are extremely deliquescent. This probably affects the drying of the drug and the storage afterwards. The drug may absorb moisture in damp atmospheres, such as at the seaside, and may lose its potency.

Mr. J. R. HILL asked whether special precautions were taken to exclude copper by contamination. He had found that a Bunsen burner with a brass tube communicates a trace of copper to a substance reduced to ash in a vessel over the burner.

Mr. E. T. BREWIS asked if Dr. Lewis had examined the soil upon which the belladonna had been grown. Certain salts are essential to the plant, others are present by chance. In the case of pepper-ash the speaker has been able to identify the district from which the pepper comes from the constituents of the ash.

Dr. McWALTER inquired whether spectroscopic examination could be employed as a measure of the alkaloidal content of a drug. He noted that the quantity of potassium is large in the case of belladonna but not so great in colchicum. Iron is also present in a fairly large proportion in belladonna. Have these any relation to the proportion of alkaloid present? There are a number of drugs in India and South Africa but little known in medicine, and what is wanted is an easy method of arriving at the potentialities of the drugs. In regard to the number of drugs which show the presence of boron the analogy between the molecule of hematin and chlorophyll, he wondered whether the cases in which boric acid has pronounced therapeutic effect are those where the hematin molecule requires boron.

Dr. LEWIS, in reply, said no special precautions were taken to exclude contamination with copper, but, as men-

tioned in the paper, this element was not determined spectroscopically on account of the use of copper electrodes. He had not had the opportunity of examining the soil upon which the belladonna had been grown. Alkaloids can be detected and be identified by their absorption spectra, but not under the same conditions as in these experiments. Alkaloids have definite absorption spectra, and such have been drawn up at the Universities where such work has been done chiefly. There is no reason why these spectra should not be employed. It should be remembered, however, that a great number of substances give absorption spectra, and that the alkaloid would have to be extracted first of all in a pure state. One could determine at once the nature of the alkaloid whether they have a quinidine, pyridine, or purine base. The percentage of iron and potassium do not bear any relation to the proportion of alkaloid in the drugs. In reply to Dr. McWALTER, the author stated that boron does not enter into the composition of the hematin molecule; boron could only be present as an impurity.

The author was thanked for his paper.

THE PURITY OF PEPsin.

Mr. Quant's paper, printed on p. 176, was taken as read. The PRESIDENT explained that the author had been called home on account of the illness of his wife. If any criticisms were made by the meeting they would be replied to by Mr. Quant.

As nobody offered any remarks, the PRESIDENT said the Section would be adjourned till the next day. It was now 12.55 p.m., which gave the members a little leisure before luncheon at 1.30 p.m.

The Practice Section.

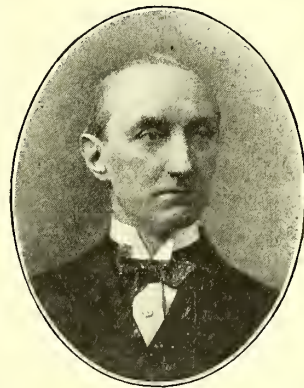
In the afternoon the meeting took place of this Section under the chairmanship of Mr. Thomas Stephenson, who arrived back from the United States on the previous evening. The attendance at the meeting was larger than at the Science Section in the morning, some eighty members being present. At the outset Mr. STEPHENSON said that those taking part in the discussion must be brief, and he imposed a time-limit of four minutes on each speaker. The Chairman called upon Mr. E. S. PECK to read his paper (printed on p. 176) entitled

"UNIFORMITY IN THE METHODS OF DISPENSING ABNORMAL PRESCRIPTIONS: A SUGGESTED CODE OF RULES."

DISCUSSION.

Sir ED. EVANS related a personal experience a few years ago when crossing Canada. He had gone through a severe experience, and when reaching Victoria, B.C., had a very bad attack of dysentery. His brother summoned a medical man, who also was the medical officer of health for the town, and he said his usual remedy for dysentery was arseniate of copper. He wrote a prescription, which his (the speaker's) brother took to the leading dispensing chemist, who as soon as he saw the prescription inquired and was told the complaint. The dispenser added, "He won't suffer long from the complaint he has, because one dose will be sufficient to send him into another climate altogether." (Laughter.) His answer was to communicate with the medical man himself. He tried to communicate by telephone, but failed to find him in the city. He (Sir Edward) would leave it to the meeting to say what ought that chemist to have done, and the sequel he would tell afterwards.

Mr. WYATT (Bootle) mentioned Sir Edward Evans's case, and said it would illustrate to a certain extent what might fall to the lot of any pharmacist in certain circumstances. He would say that if that dose of arseniate of



Mr. T. STEPHENSON.

copper ordered was an excessive dose, he considered the pharmacist in the first place was distinctly wrong in drawing the patient's attention to the fact that a dangerous dose was likely to be given. His proper course to take would have been to communicate with the prescriber, holding the prescription, while putting the patient off with some little-tattle as to the time taken to dispense it, etc. After he had communicated with the prescriber he then would be in a position to dispense it as it should be dispensed. Failing that, if he could not communicate with the prescriber the only course open to him was to give the maximum dose such as he would find in any book of reference. An ordinary, sensible consideration of the dose ordered with a man practising dispensing invariably would lead a dispenser to get hold of the right dose. He was one of those who believed that to make chaos into something like order it would be advisable to get as close to the Pharmacopœia notion of percentage solutions as possible. A conference, as suggested, with the British Medical Association might bring this into operation more generally.

Mr. HIGGS (Kingston-on-Thames) emphasised that excessive doses should be in some way specially marked.

Mr. BARLOW (Southsea) had found that medical men objected to chemists writing on their prescriptions.

Mr. CROSSLEY-HOLLAND (London) considered that the British Pharmacopœia dose was not necessarily a maximum dose, but a guide only, and, after all, the dose should be in direct proportion to action and reaction. His feeling was that pharmacists should know a little more about the action of drugs, and they then would be able to handle the matter better.

Mr. WOKES (Liverpool) pointed out that the pharmacist acted as a medium between the medical man and the patient. He (the speaker) would take no risks. The law did not allow him.

Mr. BULLEN (Dartmouth) considered it would be a good idea to approach the General Medical Council on the question of excessive doses.

Mr. PROSPER H. MARSDEN said he had known of large doses of digitalis given in hospital with no fatal result, but in such a case the patient was in bed and under observation. With respect to percentage solutions, he considered that the adoption of the decimal system would get them over the difficulty.

Mr. HARPER said that prescriptions from a distance gave chemists most difficulty, and in such a case he would endeavour to get into communication with the chemist who had previously dispensed it. It was their duty to interpret the prescription according to the doctor's idea, and in the case of percentage solutions it was their duty to instruct medical men that percentage solutions should be weight for weight.

Mr. KEMP considered that the object of Mr. Peck's paper had been to get something like a uniform action, quite apart from isolated instances. The difficulty was to know when a doctor did mean and did not mean what he had written. Their point was, they ought to have a distinct ruling for the guidance of pharmacists generally as to what line of action should be adopted in all these cases.

Mr. HILL (Edinburgh) thought Mr. Peck's communication valuable and practical. It would be a very appropriate matter for introduction to the next British Pharmacopœia. He suggested they should get into touch with the General Medical Council and represent to them that it would be desirable that a distinct set of rules, such as those should be included in the preface of the new Pharmacopœia for the guidance of doctors and chemists. Perhaps it would not be too late for the next Pharmacopœia.

Mr. BROWNE emphasised the importance of getting doctors to initial excessive doses.

Dr. MCWALTER (Dublin) thought if they were to send it to the General Medical Council they should give it more consideration. It was a question of greater importance now than five years ago, in view of the changed position since the Insurance Act came into force. The Pharmacopœia should be a general indication as to the

doses, but it gave no help in arriving at a suitable dose for children.

Mr. FINNEMORE (London) thought that discussion with a patient was strongly to be deprecated. It had been stated that doctors did not know their doses; but the fault lay with the medical curriculum, and there ought to be an alteration in the medical curriculum in this matter with respect to the question. He disagreed with the statement in one of the answers to Mr. Peck's questions that double the B.P. maximum dose was quite safe, and he thought that dispensing such a dose might bring a dispenser into serious trouble. With regard to the omission of subsidiary or less important ingredients, such as syrups or waters, this might very considerably alter the taste of the medicine, and, if the patient had previously obtained the medicine elsewhere, might shake the confidence of the patient in a chemist.

Mr. WOOLCOCK (London) said the discussion they were pretty well agreed was insufficient, as they were in accord as to what the rules should be. His second point was that they wanted incorporated in some authoritative book, preferably the B.P., the result of their deliberations when complete. Probably the forthcoming Pharmacopœia was too far advanced, and he suggested that, if so, they communicate with the Advisory Committee in Pharmacy with a view to having them included in the next edition of the "British Pharmaceutical Codex."

SECTION B.

Discussion was slow, and Mr. WOOLCOCK suggested that, seeing no one wanted to speak, the Chairman should put the question from the chair.

Dr. MCWALTER, referring to the paper, said that Mr. Peck suggested that it would be wise to decline to dispense a dangerous prescription unless some modification was made. If they said to a patient, "I decline to dispense this prescription because there is a dangerous incompatibility," where were they? He could not see how a modification could be made of a thing they could not read. It was serious, because it occurred to him that if they said to a patient, "I decline to prescribe," the medical man had an action against them for the implied innuendo that they suggested he was prescribing for a patient a dangerous compound. That was actionable.

The CHAIRMAN said there were different ways of declining, and a pharmacist was a man with a certain amount of tact and common sense.

Mr. JONES (Hanley) said the remedy Dr. McWalter was asking for might be found by consulting the prescriber. He would not discuss the matter with the patient. He would communicate with the prescriber.

The CHAIRMAN suggested that the Clause B1 should read, "unless some modification can be made," which met with the approval of the meeting.

Section B, Clause 2, was carried.

Mr. WYATT (Bootle), referring to Section B, Clause 3, suggested that they should delete the reference to cachets, and after some discussion this was agreed to.

The PRESIDENT, referring to B, Clause 4, said that in connection with the use of excipients in the medical acceptance of the term it meant something added to mass bodies, but he thought they ought also to bear in mind that where a number of extracts might be present in a pill which had a tendency to fall, then it was sometimes necessary to add some fibrous powder to support the mass and ensure the retention of the pilular form. In some cases that powder would be practically an excipient.

Mr. FINNEMORE suggested that they accept the Codex definition of an excipient.

Mr. MATTHEWS (Leytonstone) could not see why a pill which could be conveniently made to 4½ grains should be made a 5-grain pill.

Mr. JONES (Hanley) said it was entirely a question of the skill and experience of the dispenser. He knew a case of an assistant who had sent out a pill which should have weighed 2 grains as a 6-grain pill.

Mr. BROWNE (London) suggested that they make the clause read that pills less than ½ grain be made up

o 1 grain, and leave out the last portion of the clause.

Mr. WYATT agreed with Clauses 5 and 6 and the first part of Clause 7.

SECTION C.

Mr. WYATT, referring to this section, proposed they agree that if the R sign preceded the name of a proprietary article they should transfer it to a plain bottle, and the chemist should put his own label thereon. If the R sign did not precede the name of the proprietary article, or if the words "original bottle" was specially mentioned, then an original bottle should be sent. He treated the first case as a prescription; the second case as an order.

Mr. HOBBS (Tunbridge Wells) had found that proprietary articles sometimes deteriorated, and he made it a rule to examine them to see that they were in a good condition, and put in a fresh cork. This was a very important matter.

Mr. WOKES (Liverpool) gave it as his experience that if they did transfer to a plain bottle the patient generally found out in the long run.

Mr. BARLOW (Southsea) stated that when, for example, tabloid phenacetin was ordered and was given in a plain glass bottle, the patient, on taking a prescription to the stores, would get it in an original hundred bottle with the store label plastered over the original one, and the ordinary retail price charged.

Mr. BULLEN (Dartmoor) thought they should, if possible, destroy the identity of the substance and of the maker. He knew that this was difficult, since frequently the name of the maker and of the substance was stamped on tablets.

Dr. MCWALTER, referring to the question of putting in a new cork, said the moment a chemist withdrew the cork he laid himself open to an accusation by the manufacturer that he had not supplied the original substance, or that he had supplied a bottle which had deteriorated through exposure.

Mr. WELLS deprecated chemists putting their labels on the top of other labels in such a case. He considered that the patients should not know what they were getting, and all these things should be treated as prescriptions and not as proprietaries.

Mr. BROWNE made a point of inquiring of the doctors in his neighbourhood as to their views in this matter, and found that there was no difficulty if this were done.

Mr. PECK, following Mr. Hill's remarks, said he would be pleased, if he thought they could get a rule universally adopted, that they should empty all these proprietary medicines out of their own containers and put them into empty bottles. There was no question that the majority of those sending in replies were of opinion that a rule on those lines would not be universally adopted. But the more diversity there was the more need for a universal rule, if they could get it adopted.

The CHAIRMAN emphasised that the code of rules was practically the opinion of the majority of those to whom the questions were sent. The rules were framed from these replies, though perhaps in one or two instances Mr. Peck had put in his personal opinions.

Eventually, after much discussion, the following resolution was adopted on the motion of the CHAIRMAN, seconded by the PRESIDENT: "This meeting recommends the adoption by all pharmacists of a code of rules on the lines suggested in Mr. Peck's paper, and in the discussion hereon, and that the matter be referred to the Executive, who be asked to take such action as they think desirable."

Before this decision was reached, however, there was considerable controversy over a suggestion, originally contained in the motion, that the Executive be asked to confer with the British Medical Association and take such action as thought desirable.

The PRESIDENT emphasised that the Executive thought here should be some practical outcome of Mr. Peck's paper.

Mr. WYATT preferred the General Medical Council to the British Medical Association; but Mr. FINNEMORE thought the British Medical Association the more democratic and more likely to give satisfaction.

Mr. HILL also preferred the General Medical Council. That Conference already had done something in the way of getting joint action with the B.M.A., and he thought the experience was not encouraging. It was not expedient for pharmacists to approach that body on any questions of that kind at present. They would succeed more directly and satisfactorily by a respectful communication to the B.M.C. It would be much more likely to help their case by communicating direct as pharmacists with those responsible for the Pharmacopœia.

Mr. BULLEN urged that the Council was a statutory body.

Mr. PECK: The B.P.C. is not a statutory body.

Mr. BULLEN: I agree, but we are asking for something which can only come from a statutory body.

Mr. MCWALTER thought the G.M.C. would not come to a decision whilst communicating with the B.M.A.

Mr. SKINNER considered the B.M.A. approximated more to that Conference.

Finally, it was proposed that the Executive be allowed to take what action they thought desirable. In this way the resolution was carried unanimously.

The suggested code of rules was then voted upon.

A 1 was carried, only Dr. McWalter and a lady voting against.

A 2 was carried practically unanimously.

A 3 was carried unanimously.

A 4 was carried with five dissentients.

B 1, 2, and 3 were adopted with the slight alterations mentioned above.

It was agreed, with twelve dissentients, to carry B 4 instead of 5. Mr. PECK suggested, in view of the diversity of opinion, that they leave out the last paragraph and finish at the words "exceeds 1 grain." This was carried with one dissentient (Dr. McWalter).

B 5 was deleted, there being a majority against. B 6 then was carried, and B 7 was adopted with six dissentients.

C was carried, seven voting against, in the following form: "In the dispensing of proprietary articles the dispenser should remove the identity of the manufacturer and of the composition of the medicine wherever possible," etc.

There was then a short discussion on Mr. Gadd's paper. One member inquired if they could have a legal definition as to the ownership of a prescription telephoned. (Laughter.)

During the discussion it was decided to adjourn further consideration till the morning.

Before rising Mr. HILL objected to holding meetings of the Practice and the Science Sections simultaneously, which was a new departure the Executive had no right to make without consulting the Conference. He was supported by Mr. WELLS.

Science Section—Wednesday, July 23.

The morning opened dull and close, but before meeting-time the sun broke through and shone brilliantly as the members gathered for the opening proceedings. When the President took the chair at 9.50 less than twenty members were present, but the number soon increased. The President gave permission to smoke, and called on Mr. H. A. PHILLIPS, a few minutes before ten o'clock, to read his paper on

THE STABILITY OF CINNAMIC ALDEHYDE.

DISCUSSION.

The PRESIDENT said they were greatly indebted to Mr. Phillips for his useful paper. There was no doubt but that when cinnamon oil was stored in bottles partly filled oxidation took place, but Mr. Phillips had shown that little or no change took place on distillation.

Mr. BRAITHWAITE thought the subject was one of great interest to those engaged in the distillation of volatile oils. His experience was that in the distillation of cinnamon oil it was not possible to get an oil corresponding to the B.P. characteristics. English distillers have stated that they cannot get an oil of the same specific gravity and cinnamic-aldehyde content as the Continental distillers. The B.P. characteristics for cinnamon oil were not satisfactory, and had done more harm to the B.P.

than to the distillers, for the B.P. had lost its prestige as an authority on cinnamon oil. However, some consumers ordered oils not B.P., as the B.P. oil was not best for all purposes. The inference was that, owing to faulty methods of distillation, the cinnamic aldehyde was oxidised, but he pointed out that as no oil comes over till the still ceases "to blow," this could not be the case. He thought the yield generally given was somewhat high, and during the past few years he had found it to work out about 0.5 to 0.6 per cent.

Mr. BREWIS said he was very much interested in the paper, and he had thought that when Mr. Hill and Mr. Umney dealt with this subject the physical characteristics of the oil had been settled. The confusion was probably due to the fact that the monographs of the U.S.P. and G.P. really dealt with oil of cassia, which is higher in cinnamic-aldehyde content than cinnamon oil and different in flavour. He agreed that all the air is driven out of the still on distillation, and there was therefore little chance of oxidation. A question that required settlement was whether they were using cinnamon oil as a flavouring-agent only or for the antiseptic properties of the aldehyde. If the latter, then they might use cassia oil or synthetic cinnamic aldehyde; if the former, then the oil from Ceylon cinnamon is immensely superior. If Ceylon cinnamon oil was to be used, he did not agree either with the characteristics given in the B.P. or in the monograph proposed by the Committee of Reference in Pharmacy. The comparative cost of English distilled oil, exotic oil, and synthetic cinnamic aldehyde was of considerable interest. The first cost approximately 125s. per lb., exotic oil 25s. or 30s. per lb., while synthetic cinnamic aldehyde cost 5s. or 6s. per lb. In distilling cinnamon-chips the light oil (sp. gr. 0.970) preponderates in the first part of the distillate, and later on heavy oil of a specific gravity greater than 1 comes over. It seemed to him that if one has to meet the B.P. requirements the light oil must be discarded, but this would greatly increase the price. He had tried experimentally the effect of adding cinnamic aldehyde to light distillates, and found that the gravity could be adjusted to the B.P. figures by mixing one part of light oil and two parts of cinnamic aldehyde. He showed samples of light and heavy oils and of cinnamic aldehyde, and asked the President's opinion as to whether the sample of light oil was true to odour as compared with true Ceylon cinnamon oil.

Mr. C. A. HILL said he had found the refractive index to be of value for sorting out cheap oils with high cinnamic-aldehyde content from Ceylon oils with lower cinnamic-aldehyde content. The figures suggested for the new Pharmacopœia were based on normal distillates, so as to admit genuine oils and exclude cheap German distillates; they should have the best oil obtainable. He did not see why the best medicinal effect and flavouring properties should not coincide.

The PRESIDENT complimented the author on his first paper to the Conference, and hoped he would favour them with future papers.

The next paper was by Mr. F. W. Crossley-Holland on

ADMINISTRATION OF EXTRACTUM FILICIS MARIS LIQ. DISCUSSION.

The PRESIDENT thought this was an interesting method of getting over the difficulty of the administration of extract of male-fern, and the jelly possessed the merit of being easily made.

Mr. NAYLOR said that from a long experience in making capsules he was unable to agree that it was not a form of administration readily acceptable to the palate. If the object was to get rid of the after-taste, he submitted that no form will be likely to be so successful as the capsule form. He did not know that 30-minim capsules were necessary, as a smaller dose could be given if any difficulty was experienced in swallowing. He thought some oral absorption would take place in the jelly.

Mr. BULLEN expressed his appreciation of the paper, and thought the method would prove useful where capsules are not obtainable. Capsules would have to be kept, whereas the jelly could be freshly prepared.

Mr. T. STEPHENSON said there was a remarkable covering of taste in these jellies; they were very easily

swallowed and very palatable. He thought the method might be extended with advantage.

Mr. H. FINNEMORE said this was a drug infrequently used, and was often kept a long time in capsules. He knew of a case in which capsules of this drug had passed through the system. Probably old capsules had been used. With regard to emulsions, these were generally made too thick, and he recommended all emulsions to be diluted with water to the consistence of milk, when they could be easily swallowed with practically no taste.

Mr. CROSSLEY-HOLLAND, in reply said he agreed with Mr. Naylor that capsule medication was ideal in many cases, but many patients experience difficulty in swallowing capsules, and such patients could take a jelly. He thought Mr. Finnemore's idea of thinning down emulsions with water a good one, as the taste would not then be so intense.

The PRESIDENT said they were more familiar with Mr. Crossley-Holland at later parts of the Conference proceedings, but they welcomed him equally at this stage.

Mr. FINNEMORE then gave an abstract of his paper on

THE EXAMINATION OF ANÆSTHETIC ETHER OF COMMERCE.

DISCUSSION.

Mr. TYRER discussed the paper very fully, and referred to the difficulties the manufacturer meets with in the preparation of ether. He asked if Mr. Finnemore's paper referred to ether of specific gravity .717 or .720. In place of evaporating the ether in the hollow of the hand he preferred to use a blotting pad. He agreed that it was an essential test. The difference in the rate of evaporation was of particular interest, but his experience was not in the same direction as Mr. Finnemore's. He found that peroxides did come over on distillation and ether cannot be purified from ethyl peroxide by distillation only. The potash-test for aldehydes was quite satisfactory if given a little time, and he would suggest a reasonable time limit for this test. He thought a great deal of difficulty arose through buyers not stating exactly what they wanted. If they knew that the ether was required for anæsthetic purposes, they knew exactly what should be supplied. Institutions and individuals should state clearly what they want and pay for it.

Mr. D. L. HOWARD thought that ether of specific gravity .717 was not usually employed for anæsthetic purposes but for special purposes. Seeing that methylated ether was now so largely used for anæsthetic purposes, it was desirable that an official standard should be laid down for it. He reminded the Conference of the advisability of keeping ether away from the light. The decomposition of ether when exposed to light takes place much more rapidly than is commonly supposed.

Mr. C. A. HILL said Mr. Howard had anticipated a great deal of what he had to say. He was of opinion that the evaporation-test was a most useful one for those frequently working with ether, but less suitable for those using it occasionally, as the personal equation came very largely into it. The potash-test as a routine test was most useful. He would like to ask Mr. Finnemore how the ether deprived of alcohol and water had been stored.

Dr. McWALTER said that some ten years ago surgeons would not allow the use of ether or chloroform made from methylated spirits, but the custom had completely changed. Institutions were not now prepared to pay the price for pure ether or chloroform. The immense number of fatalities in operating theatres was very striking, and those began when methylated chloroform and ether came into use. Medical men were endeavouring to improve methods of administration, but he was of opinion that the purity of the anæsthetic was one of the chief factors. With regard to the presence of acetone in ether, it seemed easy for it to get into the blood, and it possibly produces the fatal effect.

Mr. BOWEN, referring to the decomposition of ether on exposure to light, said it was a surprise to most pharmacists to hear that decomposition would set in on a quarter-of-an-hour's exposure to light.

Dr. SYMES said he was surprised to learn that methylated ether was so largely used for anæsthetic purposes.

Mr. DEANE did not agree with what had been said with regard to acetone in ether causing fatal results. Those handling acetone in manufacturing operations inhaled a great deal of it, and no bad effects had been reported.

Mr. BEEWIS asked Mr. Finnmöre what kind of a still-head he used. The evaporation test carried out in the hand gave fallacious results; a blotting-pad should be used. He asked what amount of water ought one to expect in ether, as this was most important in the testing of jalap and scammony resins.

Mr. TYRER said he thought fatalities following the use of ether as an anæsthetic had decreased. On what evidence were Dr. McWalter's statements based?

Dr. LEWIS said he found that on distilling ether over a bare flame there was a danger of the vapour igniting. In the odour test he found it best to put the ether in a watch-glass and cover with filter-paper. He thus avoided touching it with the fingers, as one could not be too particular in carrying out these odour tests. He had examined two samples of ether of German make and found them far less satisfactory than those of English make.

Mr. FINNMÖRE, in reply to Mr. Tyrer, said the paper was really part of a more extensive investigation, and the sequel would be more complete. With regard to Dr. McWalter's remarks regarding fatalities, the percentage of fatal cases was really very low, especially with ether, slightly higher with chloroform, and ether was therefore replacing chloroform. Mr. Deane had partially answered Dr. McWalter's remarks regarding acetone causing results. Acetone found in the blood in cases resulting fatally was not due to acetone in the ether but to changes taking place after death. Fifteen to twenty minims of acetone could be taken safely, and acetone had therefore no poisonous effect. With respect to the proportion of water in the distillate, this had some bearing on the kind of still-head used. He used a Young-Thomas still-head about three feet long, which he found most efficient. That also explained why there was no danger in using a naked flame. He had not been able to prove whether the peroxide was ethyl peroxide or hydrogen peroxide. In reply to Mr. C. A. Hill, the aqueous ether had been stored in a brown glass bottle, and this probably accounted for the absence of decomposition products. In London methylated ether was used more than rectified. The odour test carried out in the hand was a rough-and-ready test, and he did not claim any more. One had a right to expect the B.P. to give some help in the examination of methylated ether for anæsthetic purposes, but he had little hope that the new Pharmacopœia would contain anything of practical value. He hoped to complete this research possibly before next Conference.

TINCTURA IODI DECOLORATA.

This paper by Mr. Pratt (p. 170) was read.

DISCUSSION.

Mr. RUTHERFORD HILL stated that he had examined the tincture some twenty-six years ago on account of the odour of iodoform being noticed on several occasions in the finished product. The results were not quite in accord with those arrived at by the reader of the paper. He found no advantage by dissolving the iodine separately in the alcohol; the result is the same if all the ingredients are mixed together at once. The action does not depend upon light, as proved by its completion in a stone bottle on a water-bath. No iodate was present on any occasion.

Dr. J. C. MCWALTER raised the question of the activity of colourless tincture, and also the legal consequences which might follow from employing the word iodine for a tincture free from iodine.

Mr. H. W. GADD agreed that it is undesirable to call such preparations by names which do not accurately describe them.

Mr. PRATT, in reply, said neither formic nor acetic acid was detected. The tincture can be prepared at a higher temperature if desired. The nitrogen iodide formed is susceptible to light, and soon disappears.

MESSRS. CORFIELD AND PRATT'S IRON PAPER

was read next (p. 166), but there was no discussion on it.

LIQ. OPII SEDATIVUS.

Mr. BENNETT read his paper (p. 172).

Mr. DOTT agreed with the methods advocated to prevent decomposition. Boiling with lime is bound to bring about deterioration, he said. Morphine cannot be kept in alkaline solution in presence of the other ingredients of opium. The lime becomes carbonated and causes precipitation. Sulphuric acid should be used for acidification to get rid of lime.

Dr. MCWALTER, referring to the previous day's discussion, said this paper showed the disadvantage of employing imitations of proprietary medicines. He gave an anecdote of a convivial doctor in Ireland who, in mistake for stout, drank without ill-effect half a pint of liquor opii sedativus. It must have been the Codex preparation, added Mr. McWalter.

Mr. FINNMÖRE said it is only by constant review of formulas that they are improved.

Mr. BENNETT briefly replied.

Then followed a short note by Dr. Inglis Clark (Edinburgh), read by Mr. FINNMÖRE, on

COLOURING ANÆSTHETICS,

as suggested by Dr. Bartley in the "Lancet" (*C. & D.*, July 11, p. 34). The meeting condemned the suggestion. If a responsible anæsthetist cannot discriminate between ether and chloroform, colours will not assist him.

Mr. PROCTER ATKINSON said colours are wanted on account of the use of unqualified assistants at operations. He hoped the use of coloured anæsthetics would not spread.

The authors of

THE REMAINING PAPERS

were not present, but discussion was invited on Mr. Alcock's paper on Carbon Disulphide (p. 170).

Mr. J. O. BRAITHWAITE said carbon disulphide is useful for determining moisture in essential oils and cinnamic acid in tolu.

Mr. GADD said that as no definite advantage is suggested, the use of this solvent should not be encouraged owing to transit difficulties.

With regard to Messrs. Umney's and Bennett's paper on

GLYCEROPHOSPHATES

(p. 165), Mr. W. A. H. NAYLOR said he understood that an alkaline citrate is employed to render glycerophosphates soluble, not citric acid.

Mr. CHARLES A. HILL said citric acid is added to precipitate calcium phosphate in granular form, so that it can be readily dealt with. No satisfactory method is known of assaying commercial glycerophosphates which consist of several condensation products yielding on ignition different phosphates, so that calculated results are misleading. One would have to determine the base, total phosphorus as phosphate, organic phosphate by difference, and total glyceryl radical. No simpler method gives accurate knowledge.

At this point the Conference adjourned for luncheon.

Practice Section—Wednesday.

Mr. THOMAS STEPHENSON took the chair at the Practice Section, which met in the Drawing-room of the Grosvenor Hotel at 9.40 A.M. Mr. R. R. Bennett, the junior Secretary, sat beside the Chairman, and there were twenty members present. The CHAIRMAN invited

DISCUSSION ON MR. GADD'S PAPER,

and Mr. J. R. HILL said he did not notice that Mr. Gadd had referred in his paper to Section 15 of the Pharmacy Act, 1868. He (the speaker) also expounded the difference between dispensing and compounding.

There being no further discussion, and Mr. Gadd not being there to reply, the CHAIRMAN declared the discussion closed.

Mr. HARRY KEMP then took the chair, the attendance having increased to about fifty. After a few introductory remarks, he called on Mr. T. O. Barlow to read his paper on

BUSINESS SCIENCE.

This is printed on p. 179. The diagrams there shown were fastened on the wall, and in the course of his paper Mr. Barlow referred to these.

DISCUSSION.

The CHAIRMAN said the paper struck absolutely a new line for the Conference, and during his twenty-eight years' experience of the Conference he never had heard anything to compare with it. Mr. Barlow was no idealist. He practised what he preached, and he was not afraid to preach what he practised.

Mr. W. BROWNE (London) considered every word of the paper absolutely sound. Unless they had clean pharmacy it meant a loss of business; they also must be clean themselves. He urged the securing of the confidence of their customers, without which they would not be financially successful, and to give a guarantee with everything one sold, giving another or changing the articles, if there was anything wrong, was a great help. The great secret of business was to put everybody under an obligation, either by lending an umbrella, dispensing at midnight without extra charge, etc. People would rather have one of a chemist's own preparations than anyone else's.

Mr. HOBBS (Tunbridge Wells) welcomed the paper as a sign of a new line of thought and action which should lead to great results. The one thing lacking in the drug-trade has been a training in business science and a recognition of business organisation. As a rule on entering the business one drifts on without system and picks up scraps of knowledge. Eventually, when one goes into business on his own account, he is imperfectly equipped as compared with his competitors in other trades.

Mr. E. JONES (Stoke) appreciated the paper, and said it is the kind of paper which he had been looking forward to since the foundation of the Practice Section. He suggested that the paper should be printed in pamphlet form so that principals could distribute it to apprentices and assistants. In regard to the packing of specialties he agreed that this is better done by the seller.

Mr. DEAKIN (Northwich) urged that to secure better business ability they should first increase their business; secondly, perfect the organisation of their various pharmacists and the regulating of the trade problems confronting them; and, in the third place, their outlook ought to be considerably enlarged. The great danger of pharmacists in the past had been they had been too introspective. They had to recognise there might be a much lessened demand for what they considered the pure side of their respective businesses, but one section that might be enlarged to a great extent was that of toilet requisites. Trade returns showed there was a larger income received by the general community, and he did not think pharmacists had had their due proportion of the increased trade.

Mr. T. A. WHITE (Portsmouth) thought pharmacists gave too much attention to the small things instead of the bigger ones, by which they made more money. Labour was cheap, and there were many side-lines which would support it. Chemists' windows had been improved of recent years. As to dispensing, they still held the confidence of the public, but it was the least profitable part of the business, and the profits were getting less, so that it was necessary for them to develop different side-lines. Papers such as Mr. Barlow's would increase the popularity of the Conference.

Mr. HERBERT SKINNER emphasised the value of such papers at the Conference, which hitherto has neglected the practical side of the business. It should do much to popularise the Conference throughout the country.

Mr. J. R. HILL, as an onlooker, noted the high ethical standard of the paper. He had noted as a fundamental point that efficient service to the public means success in business. Another point he had noticed in going about to chemists' meetings was the inability which many have to express their views clearly. If chemists took part in the public life of the community they would acquire the facility of expressing their views better. Over addiction to tobacco is another fault with some chemists, as shown by the tell-tale tobacco smoke-stains on the fingers. In the words of the Society's motto he should "have a regard for his health."

Mr. WALSHAW (Huddersfield) approached the subject from the point of view of the serious items of business expenses—rent, rates, and taxes. There is a movement for a new method of assessing local taxes. All will agree that the present method is inequable. He suggested that pharmacists should take more interest in traders' organisations where these matters are debated.

Mr. SHAKESPEARE (Birmingham) considered that pharmacists, as a whole, did not mix up sufficiently with tradesmen and others, and the result was their minds became cramped. The expenditure on luxuries had increased enormously, but they had not coped with the enlarged ideas of the public, and he was afraid that, in consequence, many profitable sources had drifted from pharmacists to stores and other places.

Mr. PILKINGTON SERGEANT (Leeds) said that if the moral and ethical side of pharmacy could be raised, it would be to the advantage of other pharmacists, and he did not think it could be better raised than by pharmacists depending more on themselves and their prescriptions than on outside assistance.

Mr. GRIER (Manchester) referred to the increasing interest in the subject of business methods since this subject was made one of the subjects for the Fairchild Scholarship examination. There are evening schools in Manchester where the subject is taught, but he was not aware that the classes were taken advantage of by chemists' assistants and apprentices. To quicken interest he suggested that local Associations might encourage attendance at such classes by the offer of prizes, so that assistants and apprentices could take up this subject before beginning the serious study of technical examinations. There should not be any necessity for pharmacists to take up side-lines of an unscientific character.

Mr. HOGG (Belfast) was afraid the Fairchild Scholarship is not yet sufficiently appreciated, although there was a good competition at the last examination. He considered the personal equation to be at the bottom of this paper. In regard to the mixed character of the business, he thought this would continue to the end of our days. It is not possible to separate the trade into parts.

Mr. THOMAS (Cheltenham) emphasised the importance of interesting those engaged in pharmacy in the business of that Conference, and the advantages, intellectual and social, to be gained. The more they did to promote a better feeling among themselves the better for pharmacy.

Mr. KEITH (London) touched on the question of making windows attractive as well as neat.

Mr. PECK was convinced the Practice Section had come to stay, and he found that on that, the second day of the Conference, there were one hundred members attending the two meetings. (Applause.) Mr. Barlow had not made quite sufficient of the science side of their calling. An accurate, up-to-date knowledge of pharmacy, chemistry, and botany was as big a business asset as the knowledge of the latest patterns of toothbrushes. They could not afford to allow the Science Section to suffer. If they were going to rely absolutely on their own goods, they could not also rely upon the wholesale dealer's guarantee, and they could not rely upon their own guarantee unless they had an accurate, up-to-date knowledge appertaining to pharmacy.

Mr. W. F. WELLS (Dublin) said that Mr. Barlow's paper is a deep well of thought, as business education is sadly lacking among pharmacists. He (the speaker) particularly emphasised the importance of keeping the pharmacy clean and smart, as it is by the appearance of the pharmacy that the public judge the man within. Some pharmacists do not value themselves sufficiently, and the public is apt to take a man at his own valuation. The methods of carrying on pharmacy have improved very much of recent years, and the speaker recalled the state of shops twenty or thirty years ago. In regard to stockkeeping, there is in many businesses a big leak owing to want of system. His experience in examining the papers for the Fairchild Scholarship is that there is a great lack of business knowledge in young men. He recalled an amusing answer to a recent question as to the difference between a discount of 25 per cent. and 20 and 5 per cent. One candidate said he did not think there

any difference, but if there were, he would rather have the larger. (Laughter.) Both sections of the Conference are necessary, as pharmacists cannot afford to neglect the science side of the calling. Mr. Wells also emphasised the importance of keeping one's name before the public; in his own pharmacy the name "Wells" is prominent, and he took care to show only his own goods. The CHAIRMAN said he was glad that already the section has developed into a most interesting feature of the Conference. He would regret if it led to extinction of the Science Section although that is impossible with so many men in the business with strong scientific minds. In regard to the subject of Mr. Barlow's paper, he thought the discussion had been most helpful. He desired to say that there is a deal of excuse for those who have not had the opportunity of acquiring business knowledge, and he agreed that some good should result from the publication of Mr. Barlow's paper in pamphlet form.

Mr. BARLOW, replying to the discussion, denied that he had neglected the science side of their calling. The thought underlying his mind was self-improvement, to try and persuade them to continue studies they had begun and carry them to a further and better end. The whole idea was that it should be a preface to the work one would like to see done by the Practice Section, and he thought the paper would supply headings for many other papers, which would help to keep pharmacists on the level of other business men. There was no need for an examination in business subjects, but nothing except good could result from teaching students to meet existing business conditions.

Mr. PECK moved a vote of thanks to the Chairman for the way he had conducted the business. This was seconded by Mr. WHITFIELD (Scarborough), supported by Mr. WELLS, and carried unanimously.

Mr. HOBBS called attention to a new dispensing order-book which he had devised, and distributed sheets from the book to those at the meeting.

The meeting ended at 11.20.

The Closing Session

Commenced at two o'clock promptly, when the President presented the

BELL AND HILL'S GIFT OF BOOKS

to the Chester Pharmaceutical Association. The books were Wootton's Chronicles, Watts's Dictionary, and a set of Year-books.

Mr. SHEPHEARD acknowledged.

LIST OF OFFICERS FOR 1914-15.

President—E. Saville Peck, M.A., Cambridge.
Vice-Presidents—The Past Presidents; Edmund White, B.Sc., F.I.C., London; J. P. Gilmour, Glasgow; D. M. Watson, Dublin; E. F. Harrison, B.Sc., F.I.C., London; R. F. B. Power, London; G. Whitfield, Scarborough.

Honorary Treasurer—D. Lloyd Howard, F.C.S., London.

Hon. General Secretaries—Horace Finnemore, B.Sc., F.I.C., London; Reginald R. Bennett, B.Sc., F.I.C., London.

Hon. Local Secretary—E. R. Cross, Scarborough.

Other Members—T. O. Barlow, Southsea; F. W. Gamble, London; C. H. Hampshire, B.Sc., F.I.C., London; C. A. Hill, B.Sc., F.I.C., London; Dr. D. Hooper, Weston-super-Mare; Harold Deane, B.Sc., F.I.C., Long Melford; V. F. J. Shephard, Chester; T. Stephenson, Edinburgh; Harold Wyatt, Liverpool. These officers collectively constitute the Executive Committee.

Auditors—I. Bourdas, London; W. F. Gulliver, London.

Mr. HOBBS moved that the foregoing be elected and Mr. WHITE (Southsea) seconded. This was agreed to with cheers.

Mr. PECK thanked the members for electing him President, remarking that, like the B.P.C. itself, he will rely on the good will and co-operation of members.

SCARBOROUGH IN 1915.

Mr. GEORGE WHITFIELD, F.C.S., invited the Conference to meet in Scarborough in 1915. He said the local chemists are going to put their backs into the work, and if they do as well as Chester they will do remarkably well. The Mayor, who in a letter invited the Conference, is a fellow of the Chemical Society, and can appreciate the difficulties of chemists. In the words of a song given the previous evening, "What would the seaside be without the ladies?"—who he hoped would come in great numbers.

Mr. PARKER seconded the invitation.

Mr. WELLS (Dublin) moved that the invitation be accepted. Scarborough, he said, is hard to beat for beauty and fresh air.

Mr. D. LLOYD HOWARD seconded, and the invitation was accepted with acclamation.

THANKS.

Mr. RUTHERFORD HILL proposed a vote of thanks to the Local Committee and the Ladies Committee, mentioning specially Mr. Shephard and Mrs. Carter.



LADIES' COMMITTEE (Taken Tuesday, July 21).

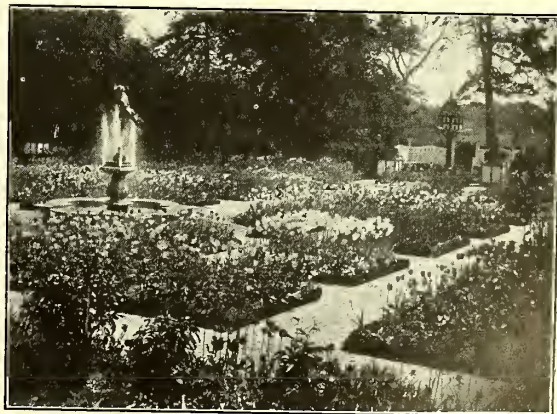
Names, left to right: *Standing*—Mrs. Hopley, Mrs. Woolman, Mrs. Cecil Owen, Mrs. Dickinson. *Seated*—Mrs. Simon, Mrs. Carter.

Mr. BARLOW (Southsea) seconded, and Mr. SHEPHEARD replied, acknowledging the assistance of local authorities, the Duke of Westminster, and Sir William Lever, Bart.

Mr. CECIL OWEN also replied.

Sir EDWARD EVANS proposed a vote of thanks to the retiring President, who briefly replied.

So ended an excellent meeting, and the trip down the Dee finished our telegraphic message.



THE TEA GARDEN, EATON HALL.



THE train journey to Chester well merits inclusion under this heading. A party of about twenty-five travelled from Euston by the midday train on Monday, and the journey was made pleasant by the renewal of acquaintances, some dating back for many years. The only note of sadness was in the fact that the train restaurant was unequal to the heavy strain imposed upon it, and a few voyagers were in desperate straits of hunger, until a short stay at Crewe gave the opportunity of a visit to the refreshment-rooms. It was raining when Chester was reached, but cleared up to allow of an exploration of a few of the more accessible sights of the city.

The reception at the Town Hall is referred to on p. 161, but further details may well supplement the brief note there given. The Mayor and Mrs. J. M. Frost, with Mr. and Mrs. E. H. Farr, received in the Mayor's Parlour. Thence visitors passed into the Council Chamber, where there was an exhibition of microscopic objects, including a series of insects concerned with the dissemination of malaria, yellow fever, sleeping-sickness, etc. This latter exhibition

invitation to the members of the Conference to go there next year. The following letter has been received by many:

The Mayor's Parlour,
Town Hall, Scarborough,
July 17, 1914.

DEAR SIR,—I have been informed that at the British Pharmaceutical Conference, which will be held at Chester during next week, your Association will be invited to hold the 1915 Conference at Scarborough.

On behalf of the Scarborough Town Council and the inhabitants of the town, I desire to take this opportunity of extending to you a very hearty invitation to the "Queen of Watering-places," and to say that, should you decide to visit Scarborough, every effort will be made to make your stay amongst us enjoyable and the Conference a success.

I have pleasure in enclosing herewith a copy of the Scarborough Booklet, which I trust you will find of interest.

Yours faithfully,
C. C. GRAHAM, Mayor.

The dinner on Tuesday evening was one of the biggest functions that have been held recently in Chester. The guests were so numerous that, in addition to the ballroom,



EATON HALL FROM THE PARK.

was by Professor Newstead, who within the last two years has been appointed first Professor of Entomology at the Liverpool University School of Tropical Medicine, the chair having been founded in memory of the late Dr. Dutton, who lost his life while investigating tropical diseases. Professor Newstead afterwards lectured on "The Archaeological Remains of the Roman Occupation of Chester," some excellent lantern-slides being shown. This was followed after an interval by another lecture, by Mr. Frank Sampson, entitled "A Walk through the Streets of Chester: Historical Sights Seen by the Way." Round the walls of the Assembly Room were shown the Charters of the city dating from 1160. The whole of the charters of the County Palatine are intact, an unusual circumstance which deserves to be noted. In the Muniment-room the city plate was on view, some of the early silver being particularly rare. A display of colour-photographs was made in one of the committee-rooms. There was an excellent band, and refreshments were served during the evening.

The Mayor of Scarborough (Mr. C. C. Graham) has created a precedent by anticipating the local chemists' in-

an overflow party had to be accommodated in the drawing-room of the Grosvenor Hotel. The dinner began at 7.30 p.m., and it was midnight before the last song was finished. The two parties united for the speeches. Mr. E. H. Farr (the President) was in the chair, and among those supporting him were the Mayor and Town Clerk of Chester, Sir Edward Evans, Mr. W. P. Evans, Professor Newstead, and Mr. D. M. Watson (Dublin). The first toast after that of "The King" was "The Pharmaceutical Society of Great Britain," which was proposed by Professor Newstead. Mr. E. T. Neathercoat (Vice-President of the Society), who had come to Chester especially for the purpose, replied. He recalled the close relationship which has always existed between the British Pharmaceutical Conference and the Society. The objects of the two bodies are interwoven, and they have much in common. Sir Edward Evans proposed the toast of "The City of Chester." As a Cheshire man he is very proud of his county town, not only on account of its peculiar beauty, which is quite different from anything else in the world, but also by reason of its municipal government. The family of the Mayor has been connected with the governance of the town for many years, and the same is true of the Dixons, to which family the Town

rk belongs. The Mayor and the Town Clerk replied, the mer giving many interesting facts regarding his office, and the latter dealing not only with Chester, but with the Golf Club, of which he is captain. The last toast—that of the British Pharmaceutical Conference—was proposed by the Town Clerk and replied to by Mr. Farr. The latter confessed that he is an idealist: he holds that a man could give of his best to the profession he has chosen. He also paid very high compliments to the Local Committee for the very hard work they have done in organising the Conference arrangements. There was an excellent musical programme during the evening, the songs being of high order.

The feature of Wednesday in the way of social events was the river excursion to Eaton Hall. A slight variation was made in the programme, in that the excursion was made to Eccleston Ferry and the return from the Iron Bridge, instead of *vice versa*. The party went by steamer on Capner's Stage by the river, and, arriving at Eaton Hall, found tea awaiting them. Here the group photographs were taken. After this the Hall was visited, its sculptures, pictures, and beautiful furniture being much admired, and also the copious scale of the building. It was 7 o'clock when the party left by the steamers, and it was nearly eight when Chester was reached. This gave sufficient time for preparing for the smoking-concert which occupied the rest of the evening.

Mr. William P. Evans, who arranged for a day's golf on the course of the Chester Golf Club at Sealand Links on Friday, July 24, is the youngest of the three sons of the late Mr. Edward Evans, sen., who were associated with him in the Hanover Street business in Liverpool, and who still continue their work in it as senior directors of Evans Sons Lescher & Webb, Ltd. Mr. W. P. Evans is as keen a golfer as his brother, Sir Edward Evans, although he may not have played over so many courses as the latter (a hundred or more in all parts of the world). Mr. Evans is captain of at least one club, plays well and heartily, and, when the occasion requires, speaks eloquently of the game, there being a vein of

miniscence in his speeches, not to mention a prodigality incident on the green and humour in the club-room, which reflects the life-long golfer.



MR. W. P. EVANS.

WHO WERE THERE.

The following is a list of those who attended the Chester meeting:

Alder, S. F., Liverpool
Andrews, Mrs. C. E. J., Liverpool
Appleton, J. T., Sheffield
Barton, H. M. and Mrs., Warrington
Barnes, A. Proctor and Mrs., London
Buckland, W. H., London
Baker, C. H., Cosham, Hants
Balmforth, A., Manchester
Barnerman, J. M., Edinburgh
Barnlow, T. O., Southsea
Bates, W. and Mrs., Southampton
Bayne, Thos., Edinburgh
Beacock, J. H., Leeds
Bennett, R. R. and Mrs., London
Benson, R. H., London
Borne, H. E., Bristol
Bourne, H. F., Torquay
Braithwaite, J. O., Mrs., and Miss, Chingford
Bramhall, Miss M. M.
Bramhall, R. T., London
Branter, B. M., London
Brewer, E. T., Leyton
Brisson, Geo., Birkenhead
Brown, W. R. and Mrs., Giffnock, Glasgow
Browne, W., London
Brunwell, C. W., London

Bryant, E. Gower, Manchester
Bullen, F. E., Dartmoor
Burbank, Miss Ada, Oxford
Burr, W. P., Liverpool
Carter, Thos., Chester
Clarke, R. Feaver, Gravesend
Clarkson, Miss Nellie, London
Clayton, Alderman C., Oxford
Clayton, The Rev. C. B., Bury
Cleave, Thos. W., London
Cleworth, J., Manchester
Clubb, W. H., Liverpool
Cooke, C. W. and Mrs., Hoylelake
Crompton, Hy., Bury
Cross, Gowen, Shrewsbury
Crossley-Holland, F. W. and Mrs., London
Deane, Harold, Sudbury
Dickinson, D.
Dolbear, John, Oxford
Dott, D. B., Musselburgh
Douglas, J. Wellesley and Mrs., London
Dunn, W. R., Oakengates, Salop
Egan, J. H.
Elder, A. and Mrs., Prenton, Birkenhead
Ellithorpe, A. H., Oxtou, Birkenhead
Elnitt, W., Derby
Emlin, J. S., Liverpool
Evans, D. H. and Mrs., Liverpool

Evans, Sir Edward, Liverpool
Evans, J. H. E., Liverpool
Evans, W. P., Liverpool
Farr, E. H. and Mrs., Uckfield, Sussex
Finnemore, H., London
Ford, Miss Betsy, Kirriemuir, N.B.
Franklin, J. H., Higher Broughton, Manchester
Freeman, Thos., Nottingham
Gadd, H. Wippell, Exeter
Gamble, F. W. and Mrs., London
Garrow, Wm. and Mrs., Stirling
Gibson, F. J. and Mrs., Wolverhampton
Goodyer, N. S., London
Gray, Miss Lesley, Musselburgh
Grimes, H. C. and Mrs., Blackpool, co. Dublin
Gulliver, W. F. and Mrs., London
Hammett, Thos. and Mrs., Waterloo, Liverpool
Hampshire, C. H., London
Hancock, S. R.
Harvey, J. W., Cork
Harvard, H. L. and Mrs., Swansea
Hearle, J., London
Hemmings, C. R.
Higgs, Alfred, Kingston-on-Thames
Hill, C. A., London
Hill, J. Rutherford, Edinburgh
Hobbs, A. E. and Mrs., Tunbridge Wells
Hogg, S., Belfast
Hollick, R. and Mrs., Birmingham
Hopley, G. H., Chester
Hornblow, Miss K., Llandulno
Howard, D. Lloyd, Chingford
Howie, W. L., London
Hughes, D.
Humphrey, J., London
Humphreys, G., Northwich
Humphreys Jones, H. and Mrs., Liverpool
Idris, T. H. W. and Mrs., London
Irvine, Mrs. Peter, New Brighton
Jones, C. Cryg
Jones, L. Stephen, Rockferry
Keith, A. R. and Mrs., London
Kemp, Harry and Mrs., Manchester
Laycock, W. F., Liverpool
Lewis, S. J., Ph.D., London
Litherland, W. H., and Mrs., Parbold, Wigan
Lloyd, J. T. and Mrs., Chelsea, London
Longmore, F. and Mrs., Melbourne
Macdonald, A., London
Macfarlane, M.
Mackenzie, D., London
Marries, C. A. and Mrs., Waterloo
Marsden, P. H. and Mrs., Liverpool
Matthews, Jno. Hy., Leytonstone
Mayne, Arthur
McInroy, J., Mrs., and Miss, Liverpool

McWalter, Dr., Dublin
Middleton, H. P., Nottingham
Millhouse, E. and Mrs., Gravesend
Mitchell, J. B., Edinburgh
Morgan, Miss, Mold
Morris, Miss, Prenton, Birkenhead
Morton, L. J., London
Morton, —, London
Naylor, W. A. H., Bromley, Kent
Neathercoat, E. T., Weybridge
Nicholl, J. W., Belfast
Noble, H. W., Newcastle-on-Tyne
Owen, Cecil, B.Sc., and Mrs., Chester
Parker, E.
Peck, E. Saville and Mrs., Cambridge
Phillips, H. A., London
Phillips, H. S. and Mrs., Wigan
Phillips, J., Wigan
Phillips, S. and Mrs., Wolverhampton
Pleasance, G. and Mrs., Melbourne, Vic.
Pratt, W. R., London
Presaut, C. S. and Mrs., London
Proctor, H. R. and Mrs., London
Rees, R. R., Dowlais
Richards, J. H. and Mrs., Prenton, Birkenhead
Roberts, G. B.
Robertson, R., Dunfermline
Sargeant, F. P. and Mrs., Leeds
Saunders, W. H., Liverpool
Shepherd, W. F. J., Chester
Simon, J., Chester
Simpson, T., Hepscoth, Morpeth
Simpson, T. M., Hepscoth, Morpeth
Skinner, H. and Mrs., London
Sletcher, H. G., Dysarth, Flint
Smith, F. and Mrs., Birmingham
Smith, J. L. and Mrs., Salford
Solomon, A. H., London
Stephenson, Thos., Edinburgh
Stiles, W. H., Doncaster
Stollfox, Birkenhead
Swinton, T. H., Bootle
Talintyre, W. J.
Tharalld, G. R.
Thomas, J. A., Cheltenham
Thompson, E. and Mrs., London
Thomson, G., Liverpool
Thomson, Wm., Liverpool
Turvey, A. and Miss, Birmingham
Tyver, T., London
Walker, J. A. W., Birmingham
Walshaw, R. C. and Mrs., Huddersfield
Want, W. P., London
Watkinson, H. A., Farnworth
Watson, D. M., Dublin
Wellings, W., Liverpool
Wells, W. F., Dublin
Weston, J. H. and Mrs., Runcorn
White, T. A., Southsea
Wood, Geo. L., London
Wood-Smith, Mrs. L., London
Woolcock, W. J. U., London
Woolley, S. W., London
Wyatt, H., Bootle

JUDGE PARRY, in "What the Judge Saw," writing of his childhood impressions says: "I can well remember that the library window looked on to New Street, in which lived our chemist and druggist; and of an evening I would go into the library and climb on a chair to enjoy the glory of his huge coloured bottles in the window, and then meanly pull faces at the nauseous shop in revenge for the wrongs I had suffered at its hands." It is in this same "What the Judge Saw" that an unwilling witness thus affords testimony to the insobriety of a chemist's assistant, who had very properly been dismissed for drunkenness, but had brought an action against his late employer in consequence: "I wor passing shop an' 'ad a bit o' cough mysen, so I went in for twopennoths o' balsam. An' when I got in t' shop I saw yon mon"—pointing to plaintiff—"leaning up again them variagated decorated drawers like they 'ave in them shops, an' I says to mysen, I says, 'Enery, you ain't tired o' your life yet, are you, 'Enery?' An' with that I cooms out wi'out ony balsam—an' that's all I know."

WESTMINSTER WISDOM.

The Week in Parliament.

CHEMICAL ANALYSIS OF DEEP PEAT.

Mr. T. W. Russell, M.P., has announced officially, in reply to a Parliamentary question, that he is not prepared to authorise expenditure for a botanical and chemical analysis of deep peat and surface peat from Ireland.

TRADE BOARDS ACTS.

The President of the Board of Trade has informed Mr. Dundas White, M.P., that one Act to confirm Provisional Orders under the Trade Boards Act, 1909, has been passed since the coming into operation of the Trade Boards Act, 1908—namely, the Act of 1913—which confirmed Provisional Orders relating to four trades, among which was one dealing with sugar, confectionery, and food-preserving.

TEMPERANCE DRINKS.

In the House of Commons on July 16, Mr. Tickler asked the Chancellor of the Exchequer whether he will allow a rebate of Excise-duty on the new temperance drink made from beer which has paid duty and has subsequently been de-alcoholised.—The Chancellor of the Exchequer replied that there is no provision in the law for repayment of duty on beer which has been subjected to the process referred to.

THE CELLULOID BILLS.

The promoters of the Glasgow Corporation's Bill dealing with the dangers of cinematograph-films and other things made from celluloid applied to the Standing Orders Committee of the House of Lords on Monday for leave to introduce new provisions into their measure, partly in order that it might become a model for the whole of Scotland. The Committee decided that the Standing Orders should be suspended so that the altered Bill might proceed.

NORTHUMBERLAND CHEMISTS.

On Thursday Lord Tullibardine is asking with reference to Northumberland chemists whether they have been told by the County Insurance Committee that should there be a deficit at the end of the year caused by excessive prescribing the chemists are the people who will suffer, as their bills will not be paid, and if he can say what redress a chemist has if the doctors on the panel prescribe beyond the limits of the regulations, and why the chemist is to be held responsible for the error. (If we get the reply in time it will be inserted in the Coloured Supplement, *q.v.*)

INSURANCE-DISPENSING QUESTIONS.

Two questions have been put in the House of Commons as to the payment of Mr. A. W. Leonard, of Ealing, a panel practitioner in Middlesex—one by Mr. Nield on July 16, and another on July 20.—Mr. Wedgwood Benn replied that no payment can be made out of the Special Arrangements Fund until all accounts have been received. The case of Mr. Leonard is in no way specially dealt with, the whole of the payments having been made at practically the same time.

Mr. Pratt asked on July 16 a question about the practice in districts where there is no chemist available for the Local Insurance Committee to arrange with the doctors on the panel to supply drugs and medicine for a capitation payment of 1s. 6d. per insured person on their list, and Mr. Wedgwood Benn replied that the arrangement is expressly provided for in the regulations, and has generally been found to work satisfactorily.

PERSONS MAKING OWN ARRANGEMENTS.

Mr. Nield questioned Mr. Benn on Wednesday afternoon about insured persons who arrange for treatment by their own doctor, and do not get enough from the Panel and Drug Funds to cover the expense. Mr. Benn replied that Mr. Nield was under a misapprehension. The arrangement to which he referred is the prescribed method of calculating the Insurance Com-

mittee's contributions to the insured person, who is himself responsible for the bills he has incurred.

Mr. Glyn-Jones asked whether the hon. gentleman was aware that insured persons who ask to be allowed to make their own arrangements are informed that one of the conditions would be that if there is not enough money in the pool to pay their own doctor they would be required to make up the deficit.

Mr. Benn said, Yes, but that insured persons who do not wish to take advantage of the panel doctor provided by the Act are aware that they may have to pay their own doctor.

THE INSURANCE ACT.

Mr. Wedgwood Benn, M.P., has informed Colonel Weston, M.P., that the cost of administering the Insurance Act, Parts I. and II., for the financial year, April 1, 1913, to March 31, 1914, was actuarially estimated at 4,050,000l., and the approximate expenditure 5,906,500l. The latter figure, it is pointed out, does not include 305,000l. voted for the treatment of tuberculosis and 45,000l. for the Highlands and Islands Medical Service Board.

SALE OF GOODS BY WEIGHT AND MEASURE.

The Select Committee on Short Weight have issued a report in which they come to the conclusion (1) That all goods usually sold by weight must be sold by weight only, and not by package or piece; and (2) that all goods must be sold by net weight. They recommend with regard to goods sold by retail (apart from bread):

(a) Short weight or measure generally in the retail sale of goods should be made a statutory offence, and the duty of enforcing the law should rest with local authorities administering the Weights and Measures Act.

(b) Vendors who sell goods by gross weight should be compelled so to inform the purchaser by a clear and prominent notice, and should bear the onus of proving that the weight of the wrapper so included is reasonable.

(c) It is desirable that it should be made a statutory offence for a seller to make a false oral representation as to the weight and measure of goods sold.

(d) That it be made illegal to retail tea, coffee, and cocoa (in powder) by any other system than by net weight. With a view to the practice of selling by penny packets, they recommend that quantities not exceeding 1 oz. may be excepted.

(e) As many articles lose weight after being packed, the Committee are of opinion that it is desirable there should be certain safeguards for vendors. They, therefore, recommend that a defendant charged with selling goods of short weight or measure should be entitled to acquittal if he proves that the shortage is due to unavoidable evaporation or loss after packing, *bona-fide* mistake or accident, or the fraud of a servant if the defendant successfully prosecutes the servant.

(f) Inspectors should be empowered to prosecute manufacturers or wholesale dealers instead of retailers, where the goods have been purchased already packed, and sold in the same condition as when received.

SELECT COMMITTEE ON PATENT MEDICINES.

The Select Committee on Patent and Proprietary Medicines met on Tuesday morning for the consideration of the report drafted by Sir Henry Norman, the Chairman. This was circulated last week among the members of that body, and, as has already been stated in the *C. & D.*, is a voluminous document. When the Committee assembled on Tuesday morning the first business was to consider whether the draft report of the Chairman should be adopted as the basis of discussion.

Our Parliamentary representative learns that altogether the meeting of the Committee on Tuesday covered a period of about four hours. At the outset the draft report of the Chairman was put to the meeting, and it was decided, without opposition, that this should be the basis of discussion. A long general debate then ensued, in the course of which some unanimity was expressed in regard to the report as drafted by the Chairman. Afterwards the report was proceeded with, paragraph by paragraph, and there was a good deal of criticism of a general character in regard to points of detail. Only one division took place in the course of the sitting, and this had reference to the use of the word "laxity" in connection

with the action of the Privy Council in regard to matters associated with the subject-matter of the report. It was thought by some that the expression was too severe, but in the end, after a division had been taken, the report was maintained in its original form. Eventually Sir Henry and his colleagues adjourned the further consideration of the report until Tuesday in next week, when it was hoped it may be concluded. Should that not prove possible, a further sitting will take place on the following Thursday. During the sitting on Tuesday good progress was made with the report, the first ten clauses which were disposed of, this representing three pages. The members of the Committee, most of whom were present, were Sir Henry Norman (Chairman), Mr. C. Athurst, Mr. Cowley, Dr. Chapple, Sir H. Dalziel, Mr. Wyn-Jones, Mr. Hayden, Mr. Hill-Wood, Mr. Ingleby, Mr. Haydn Jones, Mr. H. Lawson, Mr. A. Lynch, Sir P. Magnus, Mr. Newton, and Mr. O'Grady. The last-named, who has been absent from the House of Commons for several weeks past owing to severe illness, was, of course, unable to be present.

ASSOCIATION AFFAIRS.

Eastbourne Pharmacists' Association.—A meeting was held at the Queen's Hotel on July 14, Mr. W. Price (President) in the chair. Mr. A. Higgs's motions *re* breaking bulk were discussed, but were not thought practicable. The discounting clause of the Insurance dispensing contract could be deleted, it was thought, but that, when the drug bill exceeds the 2s. per insured person, the account should be subjected to a special inquiry by independent experts to decide if there was extravagance in prescribing or excessive illness.

The Summer Meeting of the Ucal Lodge of Pharmacy was held at 54 Uxbridge Road, London, on Wednesday, July 15, Mr. C. W. Brumwell presiding. Mr. Milner (President) was elected on the Committee in place of Mr. Eastbourne. Mr. J. Hearle (Vice-President) addressed the meeting on "Opportunity in Pharmacy," dealing with organisation and co-operation, showing by means of a genealogical tree the linking-up of various associations and organisations in pharmacy and the drug-trade. Messrs. Perry, Evans, Milner, Ingham, Kelf, Bennett, and Stooke were among those who discussed the paper.

Secrets of the Chemist's Shop."

An article in "Ideas" of June 19, under the above title, throws some curious sidelights on the practice of pharmacy in great cities. Standing outside the shop of a chemist in a busy middle-class locality in a great provincial town some time ago, a keen-eyed medical man surveyed the customers who passed in and out. He stated that he recognised no more than seventeen among those visitors to the drug-shop or drug-maniacs. A London coroner declares that there is a steadily growing crowd of victims that yearly fall a prey to the drug-habit. How many of the people in the strict round him come to the chemist for laudanum, morphine, cocaine, and other drugs to keep them going; and how often does the chemist repulse the hands that seek so deadly stuff he has in his possession? These are the chemist's secrets. The following account is given of how a medical man owed his financial salvation through exercising his powers of observation:

Standing one day transacting business in a chemist's shop near the Stock Exchange, a leading physician noted a customer enter the shop, and recognised him as one of the best celebrated financial magnates of the day, a man controlling companies dealing with millions. The financier did nothing, but walked to a remote part of the shop, where the chemist prepared for him a mixture in a little glass and handed it to him. The financier tossed off the contents of the glass, flung down a coin, and walked away. He did not walk swifter than the physician, who fled in search of a stockbroking friend to ask his advice. He had no thousands of pounds in the financier's concerns, and that he had seen filled him with anxiety. Was there anything wrong with the companies the financier was managing, since he needed a potent pick-me-up to brace him to face the day's work? The doctor sold out, and anticipated the crash that came three days later.

REVIEWS.

Chemistry Past and Present.

"The Progress of Scientific Chemistry in our own Times" provides an apt beginning to these observations. Sir William A. Tilden, F.R.S., is the author, and although it is forty years or more since scientific chemistry took him away from pharmacy, his early training, his intimate knowledge of the first chemists and their work, his experience as a teacher, and his powers as an investigator peculiarly fit him to write about the progress of the science in our own times. He does it in a manner which attracts and holds the interest of his readers consistently from beginning to end. The first edition of this book (Longmans, Green & Co., 7s. 6d. net) was based upon a course of lectures to working men which Sir William gave when Professor of Chemistry at the Royal College of Science. Queen Victoria's Diamond Jubilee had just been celebrated, and it was a chemical retrospect of those sixty years that Sir William gave the working men. The book subsequently formed now reaches a second edition, and the subject has progressed another fourteen years, so that chapters on Electricity and Chemical Affinity, Discoveries relating to the Liquefaction of Gases, and Radio-activity, with annotations throughout, bring it up to date. It is written as a narrative, and we commend the book to students, both old and young, for to the former it recalls much and links what is recalled with the progress in chemistry since their college days, while to young students it is an admirable introduction to chemistry, inasmuch as it tells of the men who have worked at the science, and expounds with remarkable clearness the evolution of our conceptions of matter and of the origin of the hypotheses and laws which at present guide chemists in their work. Biographical notes of chemists are given at the end of each of the thirteen chapters in juxtaposition with the time in which they lived. They add to the interest and value of the book, which is a 366 pp. octavo.

A complement to Sir William Tilden's book is provided in two other books which have been issued from the Press recently—one, popular in character, being a generalisation of the modern developments of chemical theory (Dr. Alfred W. Stewart's "Chemistry and its Borderland," Longmans, 5s. net), the other being devoted to organic chemistry in its special application to medicine (Professor James Walker's "Organic Chemistry for Medical Students," Gurney & Jackson, 10s. 6d.). These books will illustrate two reflections which are inevitable after reading Sir William Tilden's—(1) the immense potentialities of chemistry when employed by man either for the elucidation of phenomena that are little understood or for improving processes and preparing substances in new ways; (2) the value of the study of chemistry by men whose life-work is to be some special field with which it is concerned—in the present case medicine. There is a chapter in Dr. Stewart's book on "Immuno Chemistry and some Kindred Problems" which demonstrates, if demonstration were needed, the immense value of chemistry to those who are concerned with the cure of the sick. After all, the human body is a laboratory in which chemical reactions are continually going on, and it is when these reactions do not go straight and other chemical processes are introduced that the body becomes in need of the physician; *ergo*, the physician should be a chemist. But "the time allotted in an ordinary medical curriculum in this country to the study of chemistry may not exceed six months." So Professor Walker tells us, but he does not mention the fact that it is now possible for medical students to get their chemistry before they begin their medical studies. Words are not necessary to accentuate the irony of the situation, particularly as these observations will be read by pharmacists, than whom none appreciate better the impossibility of understanding why drugs act if one does not know their chemical constituents. They also know that it is the physician who has to understand how these constituents react with others in the human body to effect a cure. Of the six months

which medical students give to chemical science there cannot be much to spare for organic chemistry, which is really most important for physiological reasons; but Professor Walker has succeeded in producing a text-book on the subject which, while closely following the requirements of the examinations, has a continuity of theory and fact throughout it which gives the student such a grasp of the fundamentals as to prove of service to him when he comes to diagnose and prescribe. It deals with everything that comes within the student's ken, from methane to alkaloids—a sufficient incursion into complexity to be bewildering, but it is quite clear as Professor Walker puts it.

Dr. Stewart's book is professedly popular, for it has been written to satisfy the demand for information upon recent advances. He begins where Sir William Tilden leaves off, in one sense, by describing the latest developments in fifteen chapters, the last two and three appendices dealing solely with research; in fact, the book is a demonstration of the value of research, with perhaps a little too much glorification of Germany, such as—

"In the German colour industry alone five factories employ between five and six hundred chemists. . . . Very few of our manufacturing firms have any idea of what the word 'chemist' implies. Those which, like Messrs. Burroughs Wellcome & Co., have realised the enormous advantage which a scientific treatment of their problems would bring to them have reaped the success to which their foresight entitled them. At the present day, however, as far as the major part of our industries is concerned, there is no inducement for an investigator to enter a factory."

This is not, of course, the whole truth; for the staple industries of this country are inviting the assistance of chemists to make them better by improving methods and cheapening production, and too frequently chemists are unfitted by training to do that. Dr. Stewart's book may help even them. What he says about such subjects as colloids and the ultra-microscope, the spectroscope, chemistry in space, the inert gases, transmutation, chemical problems of the present and future, and other subjects is well worth reading.

Die Gerbstoffe: Botanisch-chemische Monographie der Tannide. Von Dr. J. DEKKER. 10 in. by 7 in. Pn. xiii + 636. (Berlin: Gebrüder Borntraeger. 20m.)

THIS work, by the director of the "Handelsmuseum" of the Dutch Colonial Institute, is a monumental record of bibliographic and scientific research which is dedicated to Emil Fischer. It consists of two books. The first is devoted to the bibliography and botany of the subject, and extends to 292 pages. The second book, on the chemistry of tannins, occupies the rest up to p. 536, and is followed by indexes of authors and subjects. Modern work on tanning-materials (apart from books embracing the subject more or less) began in the eighteenth century with a communication by Gleditsch in 1754 to the Berlin Academy. The next was on tanning with oak-dust, contributed in 1783 to our Society of Arts. Scheele studied the oak-gall (1787), and among the first nineteenth-century workers was Davy, who in 1803 studied the constituent parts of adstringent vegetables and their use in tanning. About sixty years ago work on tannins began to grow in volume, and many chemists of note have engaged in it, but it cannot be said that the results are commensurate with the work done. Tanning is still in the main the process which was in vogue centuries ago. The chemistry of the subject has advanced more recently, but it almost needs such a book as Dr. Dekker's, wherein we have the subject treated historically, to realise this adequately. After the bibliography, which, with the subsequent text, suggests these remarks, a chapter is devoted to the occurrence of tannins in plants, in which all plants are treated in natural order, beginning with algæ. Sometimes no more can be said than "it is astringent" or "contains no tannin," but when more can be said it is not missed, authority, date, and percentage of tannin being given. The physiology of the subject is dealt with in the second chapter, and most interesting it is, for it is practically all present-day work, which is still being pursued to those definite conclusions that are wanted

as to the origin of tannins and their functions in the vegetable kingdom. The chemical part of the book is in four chapters—viz., (i.) tannin and the tannoids; (ii.) chemistry of tanning-materials; (iii.) quantitative analysis; and (iv.) uses (in tanning and dyeing, medicine, and other purposes). This part is perfectly encyclopædic in contents and their arrangement, a remark which applies also to the prior parts; and the author's labours should be rewarded by his book becoming an indispensable work of reference on the subject.

The Elements of Chemistry. By H. L. BASSETT, B.A., B.Sc. 7½ by 4½. Pp. 358. 4s. 6d. (London: Crosby Lockwood & Son.)

THE author has endeavoured to collect together in a single small book, and to present as concisely as possible, all the chemistry—general, inorganic, organic, and practical—that is required for the Conjoint Board and First Medical examinations. Part I., which deals with general and physical chemistry, introduces the subject to the student; the simpler experimental facts and the general principles and theories on which the science of chemistry is based, are plainly set forth, superfluous experimental detail and complex theoretical matters being excluded, so that a clear presentment of the matter may result. Part II. deals with inorganic chemistry, the arrangement being strictly according to the periodic system; while Part III. is devoted to an outline of the main classes of organic chemistry, the simpler aromatic derivatives being included; the matter is presented clearly, if somewhat shortly. In the fourth part tables are given for the detection of simple inorganic salts, and simple volumetric and gravimetric analyses are clearly explained with the aid of illustrative calculations. The final chapter gives concise directions for the preparation of the more common salts of the metals. A very good index is provided, and test-questions are given at the end of each chapter. There are remarkably few errors, typographical or otherwise, and medical and dental students will find the book most useful.

AT THE COUNTER.

FROM an East-end Finchley: "4d. Decoction of Alus."

HERE'S A PUZZLER.—What is it? "Ointment. 2d.: Yellow A. Yeluate or Yellowazlakit." Mr. F. T. Roper, Kingston, Herefordshire, sends it. We say "Yellow basilicon." What do our readers say?

THE following is an order received by a subscriber in Ireland:

1 glass sweet nature. I will pay you for it again; let me no the price.

There is a big sale for spt. æther. nit. in Ireland, and no wonder if it is taken by the glass (3ij.).

PRESCRIPTION PROBLEMS are not the only difficult things to read that chemists get. Here is a facsimile of an order received by Messrs. John Bell & Croyden, Ltd., London:

*Please send postman
John H. Bell & Co.
Water bottles - 10
100 lb. glass bottles
100 lb. for the same*

Mr. John D. Marshall, the managing director, knows what was meant by the lady who wanted it. Mr. Marshall sends us another order from a less distinguished person in Wales, which is:

SIR.—Please will you be kind enough to send a 1s. worth of Hippdynazz Powder. I want it for a dog to make him follow me. I enclose P.O. to the value of 1s. & 1d. stamp. I never tell anybody about it. I just saw it in paper.

A Norwich Pharmacy.

THE reproductions below illustrate the changes which have been made in modernising an old pharmacy in High Street, Loddon, on the outskirts of Norwich. The history of this business forms a little romance of its



THE OLD FRONT.

own. It was started by a Mr. Bailey, a barber-surgeon, late in the eighteenth century. At that time the present premises comprised five cottages, his establishment consisting of only one of these. He married three times. His last wife was much his junior, and lived to the age of over ninety, and spent her widowhood in one of the cottages. Many old folk still remember and talk about "Old Mrs. Bailey." Mr. Bailey had a son who studied to take up the practice of medicine, but he died while still young, many of his anatomical specimens, skulls, and jars being left on the premises. Most of these were dispersed in Mr. Ellis's time. When Mr. Bailey died a relative of his, named Blanchflower, took over the business.

But after a few years he thought the potted Yarmouth bloater trade more promising than pharmacy. He started factories at Yarmouth and Reedham, and appears to have succeeded well in his new venture. It evidently suited his health; he lived until a few years ago, and nearly became a centenarian. After him came Mr. Crisp, then Mr. Stone, who made such strong pills that they half-killed those who took them. Then Mr. Hart, and after him Mr. Patman, who appears to have gone to Reedham, in Norfolk. When Mr. Ellis bought the business early in the 'sixties.

Mr. T. W. Ellis was here for forty years, and after his death, some ten years ago, Mrs. Ellis carried on the business, with the aid of managers, till the latter part of last year. Soon after Mr. Ellis came he was appointed postmaster, and eventually, with the increase of the business and the death of "Old Mrs. Bailey," two or three of the cottages were merged into one house and shop, and the others pulled down.

"Old Tom Ellis" is still held in affectionate regard by all those who knew him, and, according to repute, a milder man it was impossible to meet. He refused to sell "patents" at less than their full price. One of his hobbies was to give lectures in the Town Hall.

A Punjab Pharmacy.

IN November 1911 Messrs. Smith & Campbell, pharmaceutical chemists, opened their new pharmacy on The Mall, Lahore, the position being near the leading hotels and in the best part of the Civil station. The

business, which consists of high-class retail and dispensing and photographic trade, has grown rapidly since it was founded. The interior of the pharmacy shown in the photograph is fitted up entirely on English lines, three silent salesmen and an overnight showcase of Burroughs Wellcome & Co. occupying the centre of the floor. The serving counters have glass fronts surmounted by bent-glass cases imported from Maw's. Upright perfume-cases serve to screen the dispensing department, and a large mirror on the

top of the dispensing-bottle fixtures gives a finished appearance to the interior. The appearance of the shop is also very considerably enhanced by means of a fine marble floor, which shows up the cases to perfection. Electric light is the illuminant, with electric fans for use in the hot weather. Many firms at home, especially in London, would appreciate the size of the shop, which measures 50 ft. by 30 ft., with very lofty roof, an essential in India during the hot weather, and by means of which the shop is kept remarkably cool. Lahore, in addition to being the chief town in the Punjab and the seat of Government, is also a big railway centre. The European population is fairly large, while the native population



THE NEW WINDOW.



INTERIOR OF A PUNJAB PHARMACY.

exceeds 200,000. It is acknowledged to be one of the most attractive, characteristic, and picturesque of the great cities of India. In such a town modern pharmacy is an essential, and it is well represented by such a place of business as is here depicted.

TRADE-MARKS.

The figures in parentheses refer to the classes in which the marks are grouped, for a list of which, with particulars as to registration, see "The Chemist and Druggist Diary," 1914, p. 237.

Objections to the registration of any of the undermentioned applications must be stated on Form T.M. No. 7 (obtainable at Money Order Offices for £1) and lodged with Mr. W. Temple Franks, Comptroller-General, Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned.

(From the "Trade-marks Journal," July 1, 1914.)

- "POUDRE ARMORICAINE USAGE VÉTÉRINAIRE," in circular device including horses' legs; for a veterinary powder (2). By A. Bezdard et Cie, 10 Rue de Chantilly, Paris. 360,054.
 - "HÉLO" for a veterinary ointment (2). By the Polienta Co., 97-99 Oxford Road, Reading. 360,471.
 - "EXTIRMO" for chemicals (2). By the Externa Co., 86 Chiswell Street, London, E.C. 360,668.
 - "EXILLARO" for a medicated powder (3). By R. Burnett, Fraserburgh. 361,120.
 - "DIOXOGEN" for an antiseptic disinfectant and germicide solution (3). By the Oakland Chemical Co., 98 Front Street, New York, U.S.A. 358,833.
 - "JIF" and wings; for all goods (3). By J. Morgan Jones & Co., Coldstream Street, Llanelli. 360,240.
 - "CASA BIANCA" and monogram "F.C." in diamond; for all goods (3), and for food-substances (42). By P. J. F. X. Calistri, "Casa Bianca," Muro, Corsica. 360,717/8.
 - "SELTONIS" for medicinal chemicals (3). By Stanley, James & Co., 67 New Oxford Street, W.C. 360,741.
 - "STILL-EDD" for all goods (8). By C. T. Ramsay, 15 Sweeting Street, Liverpool. 360,889.
 - "AUROBA" for artificial teeth (11). By International Tooth Co., 2926-30 W. Dauphin Street, Philadelphia, U.S.A. 360,389.
 - "SPRITE," "REVO," and "VISO" for non-medicated surgical instruments, etc. (11). By Boot's Pure Drug Co., Ltd., Nottingham. 361,014/16/18.
 - "SYLVALIS" for mineral and aerated waters (44). By J. Craig, 35 Cambridge Road, Aldershot. 360,973.
 - "ARCTIC" for mineral and aerated waters (44). By the Pure Water Co., Ltd., Queen's Road, S.W. 361,339.
 - "POLO," with picture of polo-player; for goods (47 and 48). By J. Crosfield & Sons, Ltd., Warrington. 358,788/9.
 - "NURSERINE" for goods (48). By W. Maxwell, 38 Foyle Street, Londonderry. 360,188.
 - "YASPIS" NAIL-POWDER, etc., on circular label; for a nail-polish (48). By Metropolitan Industry Co., 97 Angell Road, Brixton, S.W. 360,751.
 - "HEMEGORGE" for perfumery, etc. (48). By E. H. George, 62-63 Basinghall Street, E.C. 361,202.
 - "YVONNE" for perfumery, etc. (48). By Saunders & Fishinger, Ltd., 3 Denman Street, S.E. 361,284.
 - "ALL OUT" and "UNPLAYABLE" for perfumery, etc. (48). By Vinolia Co., Ltd., 37-38 Upper Thames Street, E.C. 361,437/40.
 - "EMPEROID" for ivoryine showcards, etc. (50). By the Ivoryine Manufacturing Co., Ltd., 34 Great Titchfield Street, W. 360,165.
 - "MISTRESS" for polishes (50). By the Midland Trading Co., Charles Street, West Bromwich. 360,419.
 - "EMU," with picture of same; for brushes (50). By Hamilton & Co. (London), Ltd., 116 Clerkenwell Road, E.C. 360,830.
 - "SLADUST" for dustless sweeping-powder (50). By G. H. Coles, 97 Camberwell Road, S.E. 361,328.
- (From the "Trade-marks Journal," July 8, 1914.)
- "VELVARINE" for chemicals (1). By W. Carson & Sons, Lombard Road, Battersea, S.W. 361,166.
 - "ETHODYNE" for cattle-medicines (2). By Osmond & Son, Ltd., Standard Chemical-works, Grimsby. 359,807.
 - Facsimile signature "CHARLES YORKE" for veterinary medicine (2). By C. Yorke, 2 Beattys Avenue, Ballsbridge, Dublin. 360,426.
 - "MARTELLIN" for chemicals (2). By Henkel & Cie., Heyestraße 67, Düsseldorf, Germany. 361,048.
 - "GROSUP" for all goods (2). By The Growers' Supply Association, Ltd., The Crescent, South Road, Hockley, Birmingham. 361,101.

- "FERROPHYTINE" for medicinal chemicals (3). By Society of Chemical Industry in Basle, 141 Klybeckstrasse, Basle. 351,638.
- "VELERMO CREME" for a skin-medicine (3). By E. Eck, 20 Bournevale Road, Streatham, S.W. 358,760.
- "MERCOLLOID" for a medicine (3). By J. P. Ellerington, 1 Cranbourn Street, E.C.; and G. H. Scott, 55 Fore Street, E.C. 359,588.
- "LAXALOIDS" and words "FOR HEALTH AND HAPPINESS" in circle; for laxative medicinal tablets (3). By T. O. Barlow & Co., 2 Palmerston Road, Southsea. 360,088.
- "COMPASS" for medicinal chemicals (3). By Southall Bros. & Barclay, Ltd., 19-21 Lower Priory, Birmingham. 360,360.
- "SHEKO" for medicinal chemicals (3). By G. T. Fulford Co., Ltd., 46 Holborn Viaduct, E.C. 360,581.
- "BISOMA CARBONATE" on label; for a medicine (3). By The International Chemical Co., Ltd., 67 Bolsover Street, W. 360,640.
- "MERLECORN" on oblong label; for a corn and wart preparation (3). By Mary L. Nussey, 2 Harton Terrace, Besston Hill, Leeds. 360,737.
- "THE GOLFER'S 'BOGEY PILLS'" for pills (3). By E. B. Davis, "Cranborne," The Beach, Shoreham-by-Sea. 361,068.
- "LENTOS" for medicated skin preparations (3). By A. Wulff & Co., 12 Chenies Street, W.C. 361,073.
- "DIGITOTAL" and "SECATOTAL" for pharmaceutical goods (3). By Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sveavägen 88, Stockholm. 361,148.
- "FORZEMA" for all goods (3). By J. Fraser, 16 Dryburgh Gardens, North Kelvinside, Glasgow. 361,567.
- "KOSMOS" for vacuum-bottles, etc. (15). By Kosmos-Flaschen, G.m.b.H., Kurfürstenstrasse 146-7, Berlin. 359,428.
- Label device with words "EMPIRE BROMIDE" for photographic papers (39). By Wellington & Ward, Shenley Road, Boreham Wood, Elstree. 360,835.
- "AMBROFEED" for cattle-food (42). By J. Ambrose & Son, Long Lane, Cheadle, Cheshire. 360,846.
- "GENOL" for food-substances (42). By T. Kerfoot & Co., Bardsley Vale Mills, Oldham Road, Bardsley. 361,311.
- "MANBO" for cattle-food (42). By the Britannia Feeding Meal Co., Ltd., Fulham Palace Road, Hammersmith, W. 361,311.
- Label device with word "URN," "MASCOT" with device; for glycerin (42). By Hodgson & Simpson, Ltd., 17 Highfield Street, Liverpool. 361,137, 361,162.
- Device of goat on shield, with words "CYMRU AM BYTH" for mineral and aerated waters (44). By R. Ellis & Son, Ltd., Murog Street, Llanfurog, Ruthin. 360,871.
- "FARINEX" for a malt-extract preparation for laundry use (47). By Paine & Co., Ltd., Market Square, St. Neots. 360,220.
- "BANCOL" for non-medicated toilet preparations (48). By The Wa Keeney Co., 8 Croft Terrace, Jarrow-on-Tyne. 360,768.
- "LUCKSTONE" for toilet-preparations (48). By Luxtone Co., 2703 Cottage Grove Avenue, Chicago, U.S.A. 360,785.
- Label with words "FLOXOIN LOTION" for a toilet-lotion (48). By Tokalon, Ltd., 212 Great Portland Street, W. 360,806.
- Device with words "ENGLISH REVIVAL"—"UTILE DULCI," and signature "EMILY HAMBLIN" for a skin-wash (48). By Lily De'crevel, 33 Stag Lane, Edgware, N.W. 361,221.
- "TENDRE PROMESSE" for perfumery, etc. (48). By Yardley & Co., Ltd., 105 Carpenter's Road, Stratford, E. 361,600.
- "CAMILATONE" for shampoo-powder (48). By Camomile Tonic Co., 16 Lichfield Road, Cricklewood, N.W. 361,619.
- "EMU," with picture of same; for brushes (50). By Hamilton & Co. (London), Ltd., 116 Clerkenwell Road, E.C. 360,830.
- "NONFLAMEL" for hair-combs (50). By Low, Son & Haydon, Ltd., 5 Great Queen Street, W.C. 361,403.
- "GLAXO" for feeding-bottles (50). By J. Nathan & Co., Ltd., 88 Gracechurch Street, E.C. 361,498.

FIND OF PLATINUM.—The "Matin" announces that large quantities of platinum have been discovered in the North Ural district. Another discovery of platinum has been made about ninety kilometres to the east of Cologne.

TRADE REPORT.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling and the like. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities. Retail buyers cannot, therefore, for these and other reasons, expect to purchase at the prices quoted here.

42 Cannon Street, E.C., July 22, 9.30 p.m.

AS this issue closes for press on Wednesday evening, further market intelligence will be found in our Coloured Supplement, which will also contain a full account of the drug-auctions held on Thursday. Business in the interim has continued very quiet, the political situation being the predominant topic in Mincing Lane, and the feeling is one of unsettlement, speculation being on a very limited scale. The few changes which have occurred in market produce include a firmer tone in shellac and cloves generally. Opium remains strong at primary sources, and morphine is again firmer, makers not being keen sellers. Thymol is much dearer, makers being practically off the market. Lemon oil is again cheaper at primary sources, and the demand is slow. Ceylon citronella oil has been in fair demand. Menthol remains quiet, and American peppermint oil is offered more freely; as previously mentioned, English will be very dear this season. Among seeds, canary is scarce and prices well maintained. Dutch caraway and cumin are firm; anise and linseed are slow of sale.

London Markets.

ALMOND OIL remains firm at 2s. 6d. per lb. for sweet B.P. from pressers.

ANISEED sells slowly at 26s. 6d. to 27s. per cwt. for good Russian on the spot. Spanish is quoted 35s. to 36s. per cwt.

ANISE OIL, STAR.—Retail sales of "Red Ship" brand have been made at 5s. 1d., and for August-September shipment 4s. 6d. per lb. c.i.f. is quoted.

BALSAM TOLU.—Market to arrive is slightly easier at 1s. 11d. per lb. c.i.f.; demand is quite retail.

BERGAMOT OIL.—An advice from Catania, dated July 14, states that stocks in Calabria are estimated at from 55,000 to 60,000 lb., against about 50,000 lb. at the same time last year, which quantity the growers in Calabria are in the habit of carrying over from one season to the following. The lower prices which have been ruling for some time appear to stimulate export demand, which has been steady without being brisk. Prices are stationary. Prospects for new crop are normal. The trees are well cultivated, and it is estimated that the crop will turn out about the same as last year. Sellers are asking the same price for future oil as for prompt.

CAJUPUT OIL is reported to be scarce at from 3s. to 3s. 1d. per bottle for spot supplies.

CAMPHOR (REFINED).—Japanese is firm at 1s. 7½d. to 1s. 8d. for slabs, and 1s. 8½d. for ¼-oz. tablets.

CANARY-SEED is scarce on the spot, and prices are maintained at 95s. per quarter for fair Turkish and good Morocco, but transactions are small. Writing in regard to the Turkish canary-seed industry, the United States Consul states that:

"The yield of last year's crop amounted to 20,000 or 25,000 bags, which, added to the 75,000 or 80,000 bags of old-crop existing up country and at Rodosto at the re-opening of the port, totalled 95,000 to 105,000 bags in stock in June 1913. The demand since June last has been brisk, consequent upon the failure of the Morocco 1913 crop and the poor yield in Argentina. This, coupled with the fact

that for over seven months no shipments worth mentioning were possible from Turkey on account of the closure of the port of Rodosto, where the bulk of the canary-seed stocks were stored, brought about a considerable reduction in the stocks which existed at consuming centres, and the high level of prices which have ruled since June last, ranging between \$3.69 to \$4.09 per cwt. The present stocks in Turkey do not exceed 13,000 to 14,000 bags."

CANTHARIDES.—New crop Russian are quoted at 6s. per lb. c.i.f.

CARAWAY-SEED is firm at 30s. per cwt. for fair Dutch on the spot.

CASTOR OIL of English make of first pressing is quoted 25l. 10s. for prompt delivery, and 25l. 15s. for August 1914 and June 1915 delivery in barrels, delivered free on wharf London. Pharmaceutical quality is 50s. per ton extra, and oil in tins and cases 50s. per ton over the price in barrels. Belgian firsts for prompt and forward delivery is 24l. 15s. per ton in barrels f.o.b. Antwerp. Good seconds Calcutta in Liverpool is firm at 3¾d. per lb. for spot and 3½d. to 3¾d. to arrive.

CINCHONA.—At the auction of pharmaceutical bark held at Amsterdam on July 16, the equivalent of 932 kilos. quinine sold out of 2,875 kilos. offered, at from 17½c. to 64½c. per half kilo. At the tender held on July 15 10,946 bales, weighing about 918,089 kilos., and containing the equivalent of 54,114 kilos. quinine sulphate, were offered, of which 8,982 bales, weighing about 781,301 kilos. and containing 45,807 kilos. quinine, were taken up by the makers at the average unit of 6.20 cents, against 6.20c. at the previous tender. The exports from Java during the first half of July amounted to 357,800 Amst. lb., against 822,000 Amst. lb. in 1913, and 541,000 Amst. lb. in 1913.

CLOVE OIL is firm at 3s. 9d. per lb. for 12 W. quarts, and 4s. for smaller lots from English distillers.

COCA-LEAVES.—At the Amsterdam auction on July 16, the equivalent of 1,772 kilos. alkaloids offered, and 1,769 kilos. sold, the average unit being 15 cents per half-kilo., as compared with 15c. at the previous auction. The prices paid were from 9½c. to 34¾c. per half-kilo.

COD-LIVER OIL.—Our Bergen correspondent writes on July 20 that no business is reported, and no effective price can be given. The previous quotation of 71s. per barrel c.i.f. for prime 1914 non-congealing oil is therefore nominal.

CORIANDER-SEED is in little demand, but quotations are unchanged at 9s. to 10s. per cwt. for wormy Morocco, and 12s. to 14s. for fair to good. New crop is offering at 10s. to 10s. 6d. per cwt. c.i.f. terms.

CUMIN-SEED.—Old crop has been sold at 46s. per cwt. The first parcel of new crop has arrived and is of very good quality. The price asked is 50s. per cwt.

ERGCT.—Russian for August shipment is quoted at 1s. 8½d. c.i.f., and at 1s. 8d. on the spot. On account of the drought very little is being offered.

FENUGREEK-SEED is selling in small lots at 9s. 3d. per cwt.

GLUCOSE.—The current quotation for liquid is 11s. 4½d. per cwt. spot; solid is quoted at from 11s. 3d. to 11s. 9d.

HONEY.—Privately business has been done in fair white New Zealand honey at 44s. per cwt. The *Ruahine* from New Zealand has brought 256 cases to London.

LEMON OIL is tending easier and still slow of sale, the prices for shipment varying from 7s. 1d. to 8s. per lb. c.i.f., and on the spot from 7s. 3d. to 7s. 9d. will buy good brands.

An advice from Catania, dated July 14, states that the advance caused last month by the "arrangement" between a number of large producers could not be maintained. Small producers are still holding considerable stocks, and export demand remaining small, they are realising their goods, and prices have declined considerably during the last few days. The market is quiet and stationary. As regards new crop, the blossoming was good on the whole, and crop prospects are about the same as last year. Lemon-growers fear that, owing to the exceptional drought, the lemons may drop off and/or remain small, and are trying to keep up prices; whereas, with the depression of prices

for boxed lemons and lemon oil, buyers must buy cheaper than last year. The sales of the orchards for the next season will therefore probably be delayed. Producers are offering new-crop lemon oil at about the same price as is quoted for prompt. Buyers, however, especially exporters, are holding back, hoping for lower prices.

A Sicilian report, dated July 18, states that "a revival of the demand, which could have influenced the weakness of our market and perhaps have produced a change, has not set in as yet, and we have, therefore, to report a further decline, caused principally by the depression of weaker holders of spot goods. It is also said that even the members of the Syndicate, of which we have spoken in previous reports, are failing to maintain faith to their mutual agreement with the other members of the Syndicate, and this causes more offerings than would otherwise be the case. It is too early to be able to make any forecast as to the probable outturn of the new crop, it being only next month that the development of the new fruit will be such as to enable anything to be said."

LIME OIL.—For hand-pressed West Indian 10s. per lb. is now asked, and further business has been done in distilled oil at 3s. 3d.

LINSEED.—The demand is very slow, and the quotation for good quality remains at 50s. per quarter.

MENTHOL remains quiet, with spot sellers of Kobayashi-Suzuki at 10s. 3d. per lb. The *Atsuta Maru* has brought 40 cases oil and 125 cases menthol and oil in transit.

MORPHINE.—The nominal price from makers is now 9s. 6d. per oz. for hydrochloride, and in second-hands 9s. 4d. is quoted.

OPIMUM remains a strong market, with primary quotations substantially unchanged on the week. The sales include 11-per-cent. test at 17s. 3d. c.i.f., and 11½ per cent. is quoted at from 18s. to 18s. 3d. c.i.f. Business is somewhat difficult to effect owing to the pretensions of holders. There appears to be no prospect of cheaper prices for the present from primary sources, but much depends on the rapidity with which new crop is being sent from the Interior to the Smyrna and Constantinople markets. Persian is also a strong market, with a fair business at from 16s. to 20s. on the spot as to test; to arrive, 10 per cent. is quoted for September-October shipment at 20s. c.i.f., with buyers at 19s. Advices from Ispahan intimate small stocks only. The Turkey crop is estimated at from 7,000 to 7,500 cases, the highest estimate being 8,000 cases, which compares with 10,000 last year. But in spite of last year's crop, opium has been selling for the past nine or ten months at relatively high prices.

A Smyrna correspondent writes on July 10 that the opium-market has again been very active, with sales amounting to 112 cases of old and new crop, the former at 16s. to 18s. 9d. as to quality, and the latter at 15s. to 17s. 9d. Under present conditions, therefore, with heavy weekly purchases, it is not likely that anyone can entertain the slightest hope of a reduction. The arrivals are 473 cases, against 615 at same date last year.

A Constantinople correspondent, writing on July 18, states that the temperature in the last few days has been so changeable that one cannot say anything definite for fear of contradiction; but, on the whole, the reports from the Interior are favourable to the harvest. On the other hand, the average percentage of morphine in the new opium is middling only. Sales in druggists' quality, testing only 10½ per cent. morphine, have been made at from ptns. 250 to 255. The sales during the week were 14 cases druggists' at ptns. 250 to 255, three cases "softs" at ptns. 275, and three Malatias at ptns. 255. The arrivals amount to 107 cases, against 216, and the stocks to 272, against 328 cases.

ORANGE OIL.—A Sicilian advice dated July 14 states that stocks are not large, and, the export demand being good, prices are steady. New-crop sellers of future oil are still lacking: crop prospects are better than last year.

ORANGE-PEEL.—Small sales of fair Tripoli strip have been made at 2s. per lb., holders of English asking 1s. 11d.

PAPAIN.—A fair supply is available, genuine crumbs offering at 9s. 3d. per lb.

PEPPERMINT OIL.—There are offers of new-crop American tin oil at from 10s. to 10s. 6d. per lb. to come forward; on the spot H.G.H. is quoted 21s. and August-September shipment at 15s. per lb. We may emphasise what we said last week in regard to English peppermint,

and the bulk of what little stock was in growers' hands has been taken up by dealers at up to 32s. 6d. per lb.

QUININE.—A fair business has been done from second-hands, German sulphate in bulk selling at from 1s. 0½d. to 1s. 0¾d. per oz. as to brand.

At the auction held by the Amsterdam Quinine-works on July 17, 1,417½ kilos. (50,000 oz.) Ed. II. were bought in at fl.20.75 per kilo.

SHELLAC is firmer, with a small spot trade on the basis of 63s. per cwt. for fair TN. AC Garnet is quoted 64s.; to arrive August-September shipment of TN is quoted 63s., and October-December 64s. c.i.f. Futures are dearer, the sales including August delivery at 62s. to 63s., December 64s. to 65s. 6d., and March 67s.

THYMOL is much dearer and, as stated last week, practically unobtainable from the makers owing to the scarcity of ajowan seed; second-hands have sold at from 9s. 6d. to 11s. 6d. on the spot, the higher price being asked at the close.

TURPENTINE remains practically unchanged so far, the market closing on Wednesday evening (4 P.M.) at 34s. for American, 34s. 1½d. for August, and 34s. 9d. for September-December.

WAX, BEES'.—Gambia, in Liverpool, is a quiet market at 8l. 2s. 6d.

Buchu.

The "Kew Bulletin" (No. 5, 1914) contains some interesting information regarding the production and protection of buchu taken from the "Report of the Chief Conservator of Forests for the Fifteen-months' Period ended March 31." The following figures show the buchu exports and value during the past six years:

1907	...	...	291 334 lb., valued at £9,201
1908	...	...	243,472 " " 7,284
1909	...	...	260,126 " " 9,666
1910	...	...	273,325 " " 24,428
1911	...	...	212,082 " " 29,647
1912	...	...	223,021 " " 38,264

The highest price paid in London during 1912 was 6s. 6d. per lb. for best selected clean green leaf of the *Barosma betulina* variety. Based on the declared value, the average price per lb. works out to 3s. 5.18d. before leaving South Africa. The demand for the *betulina*, which is only found in the Western Districts of the Cape Province, is steadily increasing. The Department during 1912 raised the price of buchu (*Barosma serratifolia*) in Forest-reserve and Crown-land areas in the Swellendam Division from 2d. to 6d. per lb., and at the same time divided up the areas so as to enable close seasons to be maintained over some, so as to allow the shrub to rest, recuperate, and shed seed before plucking is next allowed on the area. On the Cedarberg, where the *Barosma betulina*, the most valuable of the buchu, grows, the price was raised from 1s. 6d. to 2s. 6d. per lb. and that Reserve was divided into four buchu-areas, only one of which is allowed to be harvested over each year. During the fifteen-months' period under review two areas were dealt with—one in January 1912 and the other in January 1913—and the yield was as follows:

1912 area (No. 3).	39,119 lb. at 1s. 6d. per lb.	£2,933 13 6
1913 area (No. 4).	23,972 lb. at 2s. 6d. per lb.	2,996 10 0
	63,091 lb.	£5,930 8 6

The Department is indebted to the police generally, and the Clanwilliam police particularly, for assisting Forest officers in the suppression of buchu thefts. Private individuals are beginning to see that the Government buchu-areas, in consequence of being worked in a systematic and judicious manner, are realising a handsome revenue to the State, and there are evidences that private individuals, on whose farms the shrub is found, are making attempts to foster its growth and protect it from the devastating veld fires so common in many districts at certain seasons of the year.

Manchester Chemical Market.

July 21.

On the chemical side of the Exchange, as in other sections, business in heavy chemicals on home account continues dull. This also applies to export demand, which shows a diminution against contracts. In sulphate of copper there is a decline in the raw metal to-day, which has reacted to some extent in the chemically treated article. For prompt delivery a fair figure may be taken as 20l. 7s. 6d. to 20l. 12s. 6d. per ton Manchester, with about 15s. per ton higher for some months forward.



Memoranda for Correspondents.

All communications must be accompanied by the names and addresses of the writers, otherwise they cannot be dealt with. Queries by subscribers on dispensing, legal, and miscellaneous subjects connected with the business are replied to in these columns if they are considered to be of general interest. Correspondents are requested to write each query on a separate piece of paper. Every endeavour is made to reply to queries without delay, but insertion of the replies in "the next issue" cannot be guaranteed, nor, as a rule, can they be sent by post. Letters submitted for publication (if suitable) should be written on one side of the paper only. Their publication in "The Chemist and Druggist" does not imply Editorial agreement with the opinions expressed.

Wholesalers and Top-hats.

SIR,—A little time ago I wrote you regarding the lack of attention provincial chemists received from London wholesalers unless they wore the magical top-hat. I have lately been up in the great city and called at over a dozen of the principal houses, and it gives me very great pleasure to say that, owing to the powerful influence of THE CHEMIST AND DRUGGIST, I received in every case the most prompt attention and greatest courtesy anyone could wish for, totally different from my experience of the last sixteen years. Please allow me to thank you for getting this grievance redressed; it is another instance of how widely read THE CHEMIST AND DRUGGIST is, and, what is of more importance, its information is taken to heart and acted upon.—Yours faithfully,

COUNTRY COUSIN. (37/46.)

SIR,—When reading the letter by "Country Cousin" in your issue of May 9, I was reminded of an incident which happened in my assistant days in London. I was at that time (1879) living at a well-known pharmacy in the W.C. district, and, having to run into Maw's for some surgical instrument of a special make, I was passing through the pharmacy in a hard felt hat and overcoat—correct dress, as I thought—when "the governor" said, "Oh, Mr. Gould, don't go into the City without a top-hat!" I took the hint, and found that it was a wise one. I never after that forgot it either, and I found that it paid! A year or two before that I was an assistant at Bath, in a very high-class business, and "the governor" there, who never by any chance wore a top-hat at home, most religiously donned one whenever he went up to town, and though he always travelled third-class on principle, I never remember him to go without this hat—it was a broad-brimmed, old-fashioned one, too, more like the old Quaker style. He was a "Bell's man," and probably knew the value of a top-hat in London. Sir, some of the good old customs still survive!—Yours cordially,

Hobart, Tasmania, June 12.

H. T. GOULD.

Suggestions Arising from Mr. Masterman's Reply.

SIR,—We have all read and heard a lot about the loss on the Drug Fund and excessive prescribing. Could this not be met by getting the Insurance Committee to agree that no prescription shall exceed, say, 10*d.* or 1*s.* on the Tariff basis? When a doctor prescribes an excessive quantity or expensive drug the chemist would automatically thus adjust it. We have had several cases in Bristol where 8 oz. lin. belladonnæ was ordered and about 1 oz. or 2 oz. used, the rest thrown away by patients. In consequence the Committee agreed (and put in the Tariff) that the maximum amount of liniment to be supplied is 2 oz. (except lin. alb., 3 oz.), and ointments 1 oz. Medical men cannot be expected to be walking price-lists, and I am sure desire to meet the chemists on many points now the first flush of excitement of the Act is over.

Yours faithfully,

BRISTOW. (36/43.)

SIR,—Mr. Masterman held the trump cards when the deputation from the Conference of Delegates met him last week, and it seems to me that his argument was unanswerable when he told the Local Committees that if they cannot carry out the Act for themselves they need not expect help from the Commissioners. The quotations he gave of the reasons why action is not taken by chemists themselves to prevent the necessity of discounting arising are very laudable indications of the good feeling between chemists and doctors, but good feeling does not butter parsnips, and the sooner action is taken to bring home to the injudicious prescriber the fact that he is injudicious the better it will be for all concerned. It is exactly on account of this local feeling that the Council of the Society should have stepped in earlier, but there is now the obvious reply that some of these very districts declined Mr. Woolcock's proposal, which, had it been adopted, would have given the Council facts at first hand on which to base remonstrance where necessary. I believe that in many of the areas this work is faithfully undertaken by the checker, and the plan has worked excellently. Much can be done by stopping the trouble at the source—namely, the doctor's consulting-room—and I, for one, consider that the medical profession as a body should recognise their responsibilities in this matter by talking plainly to those of their number who imperil the whole system by their extravagant and thoughtless methods of medication.

Yours truly,

PHARMACEUTICUS. (37/29.)

SIR,—Mr. Masterman's reply to the pharmacists' deputation last week should certainly clear the air. He told our representatives distinctly that the agreement signed by all chemists who have undertaken Insurance dispensing must be considered binding; that in any area where the Local Committee's funds are insufficient to make full payment of accounts passed by the Committee's auditors chemists must not expect, now or hereafter, to get more than the funds will allow of; that the Government does not recognise any legal or moral obligation to pay such accounts in full; it considers 2*s.* a head a sufficient allowance on Drug Account, and will not go beyond it, so that chemists entering into contracts with Insurance Committees must clearly understand that they thereby resign any claim to payment in full: they agree to accept, and accept finally, what the Committees' funds for that period will admit of. Respecting the fund for exceptional sickness, Mr. Masterman tells us that before drawing on this chemists must put in operation the clauses making inquisition as to doctors' methods of prescribing. Mr. Masterman quoted various statements from Insurance Sub-Committees of the impracticability of interfering with the work of the doctors in this way. But my report does not indicate that any member of the deputation supported this position. Nor does the most vital matter appear to have been dealt with—viz., the pooling of the funds so that all areas shall receive equal treatment. I suggest that as we have no longer to wait and see, but know exactly what we have to expect, Chemists' Associations all over the country should meet quickly and decide their course of action. To me it seems that we should all pass resolutions (1) declining to interfere with doctors' rights to prescribe what they deem fitting, (2) stating that we shall enter into no more contracts except on the basis of full payment of our audited accounts, (3) that we would welcome a Joint Committee to consider Tariff revision, and (4) that we urge the pooling of the entire sum available on Drug Account, that areas having a surplus should tend to equalise those showing a deficit.

Yours faithfully,

Leeds.

W. K. HARRISON.

SIR,—The reply of the Right Hon. C. F. G. Masterman to the Pharmaceutical Society's deputation must be an "eye-opener" to many chemists, and it has served to clear the pharmaceutical Insurance atmosphere. Pharmaceutical Committees in "discounted" areas have no option other than to institute an inquiry into over-prescribing, or to be discounted. Mr. Masterman showed how this ought to be done, viz.: In each Insurance area prescriptions must be sorted according to the prescribers (*not* dispensers). From this can be obtained:

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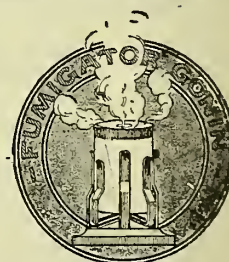
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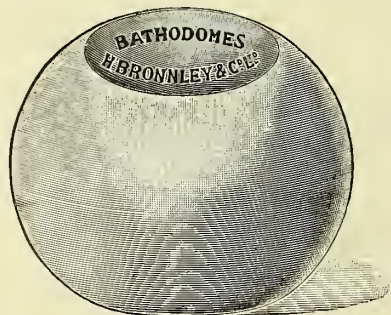
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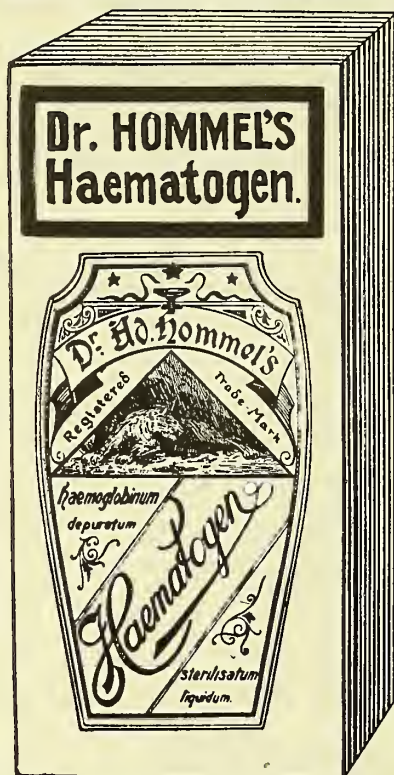
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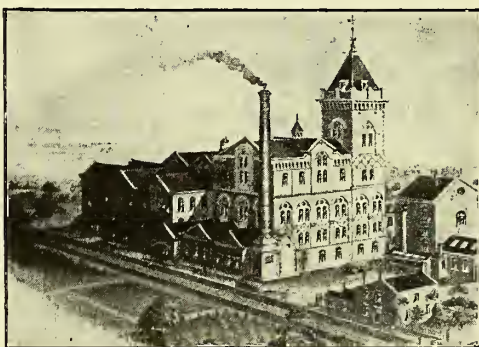
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ALOE, DILUTE (Dr. Hall Dinner Pill), 4 grs.

{ Aloe Barb., Pulv. Ext. Glycyrrh., }
{ Saponis pulv., Theriaca, aa, 1 gr. }

ALOE AND IRON, B. P.,

5 grs.

ALOE AND MYRRH, B. P.,

3 and 5 grs.

ALOIN,

1-10, 1-4, 1-2 and 1 gr.

In an article on the management of Simple Constipation, the late Sir Andrew Clark said: “If the use of drugs is unavoidable, try the aloin pill. Take one half an hour before the last meal of the day, or just so much of one as will suffice to move the bowels in a natural way the next morning before breakfast. If it should produce a copious motion, or several small motions, the pill is not acting right; only a fourth, or even less, should be taken for a dose. When the right dose has been found it may be taken daily or on alternate days until the habit of defecation is established.” Dr. Clark used aloin in combination with nuxvomica, iron, myrrh, etc. (See Aloin or Aperient, No. 4.)

ALOIN COMPOUND.

{ Aloin, 1-8 gr. }
{ Ext. Belladonna, 1-4 gr. }
{ Podophyllin, 1-8 gr. }

ALOIN, HYOSCYAMUS, NUX VOM. AND IPECAC.

(Pil. Salutis, Dr. Thomas.)

{ Aloin, 1-2 gr. }
{ Ext. Hyoscy., 1-2 gr. }
{ Ext. Nucis Vom., 1-4 gr. }
{ Pulv. Ipecac., 1-6 gr. }

A gentle laxative and an aid to digestion; one at bedtime and repeat just after breakfast if necessary.

ALOIN AND STRYCHNINE.

{ Aloin, 1-5 gr. }
{ Strychnina, 1-60 gr. }

A tonic laxative granule, prescribed for chronic constipation where a painless peristaltic action is desired. Especially useful in the treatment of the aged.

ALOIN, STRYCHNINE AND BELLADONNA.

{ Aloin, 1-5 gr. }
{ Strychnina, 1-60 gr. }
{ Ext. Belladonna, 1-8 gr. }

A tonic laxative granule, prescribed where a painless peristaltic action is required.

ALOIN, STRYCH. AND BELLADONNA COMP.

{ Aloin, 1-5 gr. }
{ Strychnina, 1-60 gr. }
{ Ext. Belladonna, 1-8 gr. }
{ Ext. Rhamni Purshiana, 1-2 gr. }

A laxative in habitual constipation. Dose, 1 pill, repeated three times a day if necessary.

ALOIN, STRYCH., BELLADONNA AND IPECAC.

{ Aloin, 1-4 gr. }
{ Strychnina, 1-60 gr. }
{ Ext. Bellad., 1-8 gr. }
{ Pulv. Ipecac., 1-16 gr. }

A prompt and efficient tonic laxative; does not gripe.

ALOIN OR APERIENT, No. 1.

{ Aloin, Ext. Nucis Vom., }
{ Ferri Sulph., Saponis pulv., }
{ Myrrhæ pulv., aa, 1-2 gr. }

This formula was recommended by the late Sir Andrew Clark in the treatment of simple constipation.

ALOIN OR APERIENT, No. 2.

{ Aloin, Ext. Nucis Vom., }
{ Ferri Sulph., Saponis pulv., }
{ Myrrhæ pulv., aa, 1-8 gr. }

This pill is one-quarter the strength of the one mentioned above, but is of the same formula and is recommended by the same authority. It is to be given in cases where “No. 1 is too strong.”

ALOIN OR APERIENT, No. 3.

{ Aloin, Ext. Nucis Vom., }
{ Ferri Sulph., Ipecac. pulv., }
{ Myrrhæ pulv., Saponis pulv., aa, 1-8 gr. }

This pill, the third one of the series, will be found of value where No. 2 (above) is indicated, *provided there is no special weakness of the heart.*

ALOIN OR APERIENT, No. 4.

{ Aloin, Ext. Nucis Vom., }
{ Ext. Belladonna, Ferri Sulph., }
{ Myrrhæ pulv., Saponis pulv., aa, 1-8 gr. }

In cases in which the above formulas appear to act in a more or less irregular manner, and belladonna appears to be indicated, this pill will be found of service.

The above four formulas, which have been graduated to form, as near as possible, a “natural” aperient, were recommended by the late Sir Andrew Clark.

ANTI-DYSPEPSIA (FOTHERGILL)

{ Strychnina, 1-20 gr. }
{ Pulv. Ipecac., 2-3 gr. }
{ Pulv. Piper. Nig., 1 1-2 grs. }
{ Ext. Gentiana, 1 gr. }

Recommended by the late Dr. Fothergill in his article on “Atonic Dyspepsia.”

ANTI-MALARIAL (See QUININE COMPOUND)

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ARSENIOUS ACID, 1-100, 1-60, 1-30 and 1-20 gr.

ASAFETIDA COMP., B. P.,

5 grs.

ATROPINE,

1-200 and 1-100 gr.

BLENOSTASINE,

1, 2, 3 and 5 grs

An invaluable remedy in influenza and common colds. In hay fever it acts almost as a specific.

BLUE MASS, B. P.,

1, 2, 3 and 5 grs.

BLUE MASS, COLOCYNTH AND HYOSCYAMUS.

{ Massa Hydrarg., 1 gr. }
{ Ext. Hyoscy., 1 gr. }
{ Ext. Colocynth. Co., 3 grs. }

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CALOMEL, 1-20, 1-10, 1-4, 1-2, 1, 2, 3 and 5 grs.

CALOMEL, COLOCYNTH AND HYOSCYAMUS.

{ Hyd. Subchlor., 1 gr. }
{ Ext. Coloc. Co., 3 grs. }
{ Ext. Hyoscy., 1 gr. }

CALOMEL COMP., B. P. (Plummer), 5 gr.

CALOMEL AND OPIUM.

{ Hyd. Subchlor., 2 grs. }
{ Opii pulv., 1 gr. }

CAMPHOR. MONO-BROMATED, 2 and 5 gr.

CANNABIS INDICA EXTRACT, 1-4 and 1-2 gr.

CASCARA SAGRADA EXTRACT, 2 and 3 gr.

This extract is prepared in our own laboratory, and can be relied upon. Useful in habitual constipation, dyspepsia, jaundice, and similar affections of the digestive organs.

CATHARTIC COMPOUND, U. S. P. (Purgative).

{ Ext. Jalapæ pulv., aa, 1 gr. }
{ Hyd. Subchlor., aa, 1 gr. }
{ Ext. Coloc. Co. pulv., 1 1-3 grs. }
{ Cambogia pulv., 1-4 gr. }

One pill will act as a laxative, and two as a cathartic. Particularly applicable in the early stages of bilious fevers, to hepatitis, jaundice and all those derangements of the alimentary canal, or of the general health, which depend on congestion of the portal circle.

CATHARTIC IMPROVED (See LAXATIVE VEGETABLE).

CODEINE, 1-8, 1-4, 1-2 and 1 gr.

COLOCYNTH COMP., B. P.,

4 and 5 gr.

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{ Pil. Coloc. Comp., B. P., 3 grs. }
{ Massa Hydrarg., 2 grs. }

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{ Ext. Coloc. Co., 4 grs. }
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CORROSIVE SUBLIMATE, 1-30, 1-20, 1-10 gr.

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{ Ext. Turnera Aphro., 2 grs. }
{ Ext. Nucis Vomica, 1-3 gr. }
{ Phosphorus, 1-100 gr. }

Useful in sexual debility. Dose, 1 or 2 pills.

DIGITALIN, 1-60 gr.

DINNER (Lady Webster).

{ Pulv. Aloes Soc., 2 grs. }
{ Pulv. Mastiches, 1-2 gr. }
{ Pulv. Rosæ Gallicæ, 1-2 gr. }

One or two pills taken shortly before a meal will usually produce one firm evacuation.

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{ Res. Podophylli, 1-8 gr. }
{ Res. Leptand., aa, 1-16 gr. }
{ Res. Juglandis, aa, 1-16 gr. }
{ Res. Cisticif., 1-32 gr. }
{ Ol. Capsici, }

EMMENAGOGUE.

{ Ergotin, 1 gr. }
{ Ext. Helleb. Nig., 1 gr. }
{ Ferri Sulph. Exsic., 1 gr. }
{ Pulv. Aloes Soc., 1 gr. }
{ Ol. Sabinæ, 1-4 gr. }

EMMENAGOGUE (Mutter).

{ Ferri Sulph. Exsic., 1 1-2 grs. }
{ Terebinthina, 1 1-2 grs. }
{ Aloes Soc., 1-2 gr. }

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2, 3 and 5 grs. h pill contains the active principles grains Ergot of Rye, or 30 minims liquid or fluid Extract.	2, 3 and 5 grs.	OPIUM POWD., 1 gr.	QUININE AND STRYCHNINE. { Quinina Sulphas, 1 gr. } { Strychnina, 1-60 gr. } Dose, 1 or 2 pills.
2 and 3 grs.	2 and 3 grs.	PEPSIN, PURE, CONCENTRATED, 1 gr. Each pill equal in digestive properties to 5 grs. Saccharated Pepsin.	QUININE VALERIANATES, 1-2, 1, 2, and 3 grs. In debility, attended with nervous dis- order, 1 or 2 pills may be given, two or three times a day.
COMP. Hymin, 1 gr. } n, 1-4 gr. } Rhei, 1 gr. } Nucis Vom., 1-8 gr. } Hyoscyami, 1 gr. }	3 grs. 5 grs. }	PHOSPHORUS, 1-100, 1-50 and 1-30 gr. Contains the full amount of Phos- phorus in unoxidized form.	RHUBARB COMP., B. P. 5 grs.
OUS (Blaud) 3 grs. OUS (Blaud) 5 grs. Sulphas, } ssii Carb., }	1, 2 and 3 grs. 1 Quinine Bisulphonate.)	PHOSPHORUS AND IRON. { Phosphor. Pur., 1-50 gr. } { Ferrum Reduct., 2 grs. }	RHUBARB COMP. AND BLUE MASS, 5 grs. { Pil. Rhei Comp., 3 grs. } { Pil. Hydrarg., 2 grs. }
l Quinine Bisulphonate.)	1 gr.	PHOSPHORUS, IRON AND QUININE. { Phosphor. Pur., 1-100 gr. } { Ferri Carb. (Vallet), 1 gr. } { Quinina Sulph., 1 gr. }	SALICYLIC ACID, 2 and 5 grs.
ent in malarial fevers, anæmia, and as an intestinal disinfect- ed with much success in the t of enlarged glands of the neck reducing adenoid growths.	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS AND NUX VOMICA. { Phosphor. Pur., 1-50 gr. } { Ext. Nucis Vom., 1-4 gr. }	STROPHANTHUS AND IRON. { Pulv. Sem. Strophanthi, 1-4 gr. } { Ferri Sulph., 1 1-2 grs. } { Potassii Carb., 1 1-2 grs. }
reducing adenoid growths.	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS, NUX VOMICA AND IRON. { Phosphor. Pur., 1-50 gr. } { Ext. Nucis Vom., 1-4 gr. } { Ferri Carb., 1 gr. }	This pill represents Blaud's formula in combination with strophanthus, and may be given where a ferruginous heart tonic is indicated. Dose, 1 or 2 pills.
	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS AND QUININE. { Phosphor. Pur., 1-50 gr. } { Quinina Sulph., 1 gr. }	STRYCHNINE, 1-200, 1-100, 1-60, 1-50, 1-40, 1-30 and 1-20 gr. Dose, according to case, from 1-200 to 1-20 gr.
	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS, QUININE, IRON AND STRYCH.	STRYCHNINE SULPHATE, 1-200, 1-100, 1-60, 1-50, 1-40 and 1-30 gr. Dose, 1-200 to 1-30 grain at bed time.
	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS, NUX VOMICA AND IRON. { Phosphor. Pur., 1-50 gr. } { Ext. Nucis Vom., 1-4 gr. } { Ferri Carb., 1 gr. }	THYMOL (Thymic Acid) 2 1-2 grs. Used in cases of typhoid fever, pneu- monia and pleurisy, and also as a tani- fuge. Dose, two 2 1-2 gr. pills every six hours.
	1 gr. 1-8 gr. 5 grs.	PHOSPHORUS AND VALER. ZINC. { Phosphor. Pur., 1-50 gr. } { Zinci Valer., 1 gr. }	TONIC (Dr. Aiken) { Quinina Sulph., 1 gr. } { Acid. Arseniosum, 1-50 gr. } { Ferrum Reductum, 2-3 gr. } { Strychnina, 1-50 gr. }
	1 gr. 1-8 gr. 5 grs.	PODOPHYLLIN, 1-B, 1-4 and 1-2 gr.	A valuable general tonic. Dose, 1 pill three times a day.
	1 gr. 1-8 gr. 5 grs.	PODOPHYLLIN COMP. { Res. Podoph., 1-2 gr. } { Ext. Coloc. Co., 2 grs. } { Ext. Hyoscy., 1 gr. }	TONIC-LAXATIVE (Fothergill) { Quinina Sulph., 2-3 gr. } { Strychnina, 1-30 gr. } { Ferrum Reduct., } { Ext. Bellad., aa, 1-4 gr. }
	1 gr. 1-8 gr. 5 grs.	PODOPHYLLIN COMP. (Dr. Janeway) { Res. Podophylli, 1-2 gr. } { Aloe Soc., 1 gr. } { Ext. Bellad., } { Ext. Nucis Vomica, aa, 1-4 gr. }	TRIPLEX. { Ext. Aloes, 2 grs. } { Res. Podophylli, 1-4 gr. } { Massa Hydrarg., 1 gr. }
	1 gr. 1-8 gr. 5 grs.	Dose, 1 or 2 pills.	Valuable where a cathartic is required with a peculiar action on the liver. Dose, 1 to 3 pills.
	1 gr. 1-8 gr. 5 grs.	QUININE BROMIDE (Hydrobromate) 1, 2, 3 grs. Unites the alterative effects of bromine with the tonic properties of quinine. Dose, 1 to 3 grs.	VALERIANATES QUININE, IRON AND STRYCH. { Quin. Val., 1 gr. } { Strych. Val., 1-60 gr. } { Ferri Val., 1 gr. }
	1 gr. 1-8 gr. 5 grs.	QUININE MURIATE, 1, 2 and 3 grs.	Useful in nervous debility. Dose, 1 pill three times a day.
	1 gr. 1-8 gr. 5 grs.	QUININE AND CAPSICUM. { Quinina Sulph., 2 grs. } { Pulv. Capsici, 1-2 gr. }	WARBURG TINCTURE. Each pill represents 1 fluid drachm of the tincture.
	1 gr. 1-8 gr. 5 grs.	Capsicum is said to assist the action of quinine. Dose, 1 to 3 pills.	WARBURG TINCTURE WITHOUT ALOES. Each pill represents 1 fluid drachm of the tincture.
	1 gr. 1-8 gr. 5 grs.	QUININE BI-SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs. Bi-Sulphate of Quinine is much more soluble than the sulphate, the latter re- quiring seven hundred parts of water to dissolve it, while the BI-SULPHATE DISSOLVES IN TEN PARTS.	WARBURG TINCTURE WITHOUT ALOES. Each pill represents 2 fluid drachms of the tincture.
	1 gr. 1-8 gr. 5 grs.	QUININE COMP. (Anti-Malarial) { Quinina Sulph., } { Cinchonid. Sulph., aa, 1 gr. } { Acid. Arsenios., 1-40 gr. } { Acid. Carbolic., } { Menthol, aa, 1-8 gr. } { Capsici pulv., 1-4 gr. }	ZINC PHOSPHIDE AND EXT. NUX VOMICA. { Zinci Phosphidum, 1-10 gr. } { Ext. Nucis Vomica, 1-4 gr. }
	1 gr. 1-8 gr. 5 grs.	This pill is largely prescribed in the most severe malarial districts of America, with remarkable results.	Tonic. Useful in palsy, neuralgia and chronic constipation, also in brain dis- eases. Dose, 1 to 3 pills.
	1 gr. 1-8 gr. 5 grs.	QUININE SULPHATE, 1-4, 1-2, 1, 2, 3, 4, 5 grs.	ZINC VALERIANATES, 1 and 2 grs.

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strongly urge all Mineral Water Manufacturers not now using Bicarbonate of Soda, before committing themselves to Whiting for the coming Season, to try a 2-cwt. Bag of our Bicarbonate of Soda, which we shall be pleased to send carriage forward on receipt of Postal Order for 8s.

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**SPECIALLY MADE FOR THE PRODUCTION OF
CARBONIC ACID GAS FOR AERATED WATERS.**

≡ ADVANTAGES ≡

Reduction of Plant necessary.

Economy of Time and Labour is effected.

Great Cleanliness in Manufacturing is ensured.

Same Generator will yield THREE TIMES the amount of Carbonic Acid Gas per charge.

The same quantity of Sulphuric Acid will yield TWICE THE AMOUNT of Carbonic Acid Gas.

There is NO SEDIMENT in the Residual Liquors, and consequently no Mud to deal with.

A Marketable Bye-Product (Glauber Salts) can, if desired, be obtained.

First-class Waters are produced.

BRUNNER, MOND & CO.



LIMITED, NORTHWICH.

INSTRUCTIONS FOR USING Bicarbonate of Soda in making Mineral Waters

PRODUCTION OF CARBONIC ACID GAS.

PROPORTIONS TO BE USED:

1 Cwt. Bicarbonate.

Minimum quantity of Water: 17 to 20 Gallons.

3½ Gallons (say 68 lbs.) Sulphuric Acid of 167 Twaddell.

These quantities give about 58 lbs. Pure Carbonic Acid Gas.

THE METHOD OF CHARGING the Generator, and of running in the Acid, is exactly the same as when Whiting, Chalk, &c., are used; no agitation is required except at the very end of the charge. About 50% more bottles (or half as many again) will be charged than with the same weight of Whiting.

A Generator capable of holding 1 cwt. of Whiting, 36 gallons of Water and 6¼ gallons (1 cwt.) of Acid can be charged with 2 cwts. of Bicarb., 34 gallons of Water and 7½ gallons (1½ cwt.) of Acid. This will yield **Three Times as much Carbonic Acid Gas** as is given by the Whiting process, and consequently three times as many bottles per charge—an immense advantage where space is limited and when business is brisk.

It will be seen from the proportions given above that only about *two-fifths* of the Acid and two-thirds of Bicarbonate (weight for weight, as compared with Whiting) are required to produce the same amount of Carbonic Acid Gas.

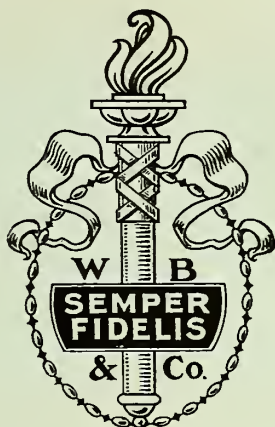
The proportion of Water can be varied according to circumstances. With the above proportions the liquor from the Generator (which liquor is always perfectly clear and free from sediment) will, if run into tubs or into crystallising pans, crystallise in about two hours at ordinary temperatures. The Crystals obtained are Glauber Salts, a readily saleable article, in place of the mud from Whiting, so disagreeable to handle and so difficult to get rid of.

When the minimum quantity of Water is used, the liquor should not be allowed to stand in the Generator after work is finished, or the Glauber Salts will crystallise in it and cause delay by having to be dissolved out with water, or otherwise removed, before a fresh charge can be inserted. If it is not wished to recover the Glauber Salts, fill up the Generator with water after the charge is worked off, or work with more water in the original charge.

If the residual liquors are disposed of by pouring them down a drain, it is advisable first to dilute them with water, or to pour water down the drain, either at the same time as, or immediately after, the liquors, in order to prevent a possible blockage of the drain-pipe by crystallisation.

Mineral Water Manufacturers who use the above process might, with advantage, send their Glauber Salts to the firms who supply them with their Acid.

BRUNNER, MOND & CO. LIMITED, Northwich, England.



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SEMPROLIN

preparations have initiated a new campaign and desire to inform the trade that the management of the business has been entirely reorganised.

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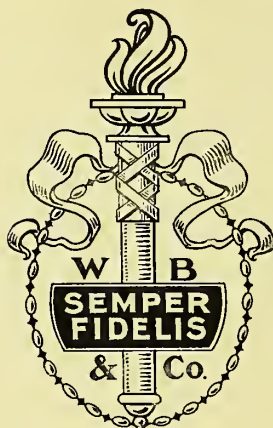
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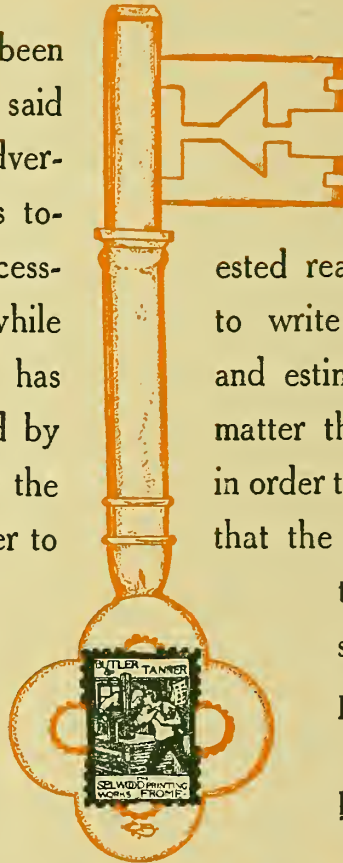
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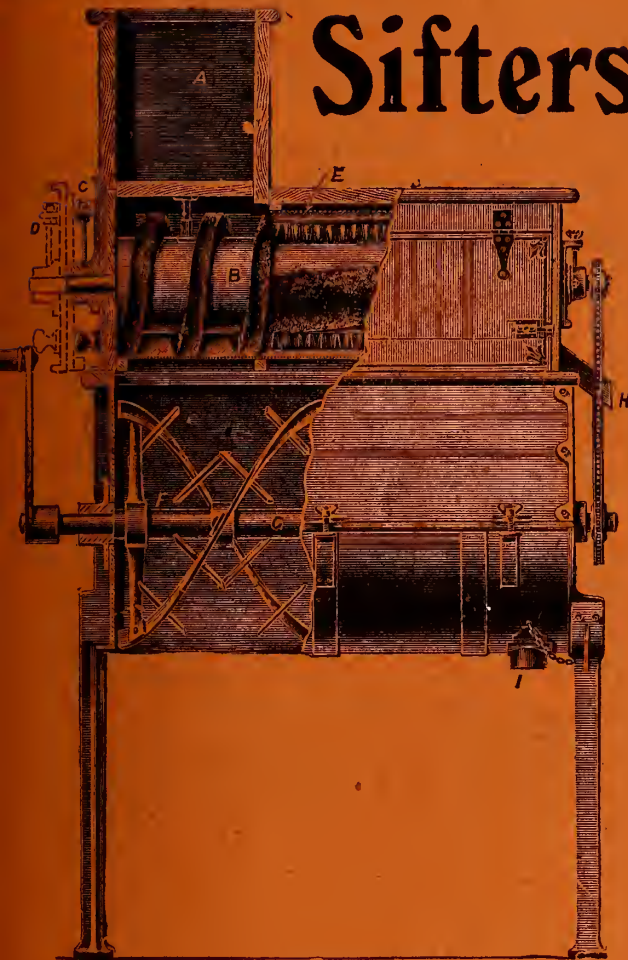
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Illustrations of a FEW of our different patterns, see inside

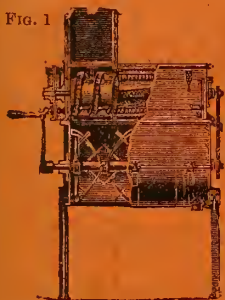
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GARDNER'S PATENT "RAPID" SIFTERS AND MIXERS

STANDARD PATTERN COMBINED MACHINES (Figs. 1 to 4) will at one operation thoroughly Sift and Mix all Dry powders and pulverise any that contain lumps. Used for Baking Powder, Self-raising Flour, Cattle Foods, Sugar, Colours, Sherbet, Coffee, Flour, and all blends.

Fig. 1



SIZES FOR HAND USE

Capacities from 7 lbs. to 3 cwt., and Prices from £5 upwards according to requirements

Fig. 2

Direct Drive Power SIZES

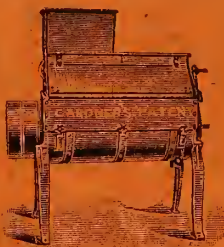


Fig. 3

Pulley and Gear Drive Recommended for power users

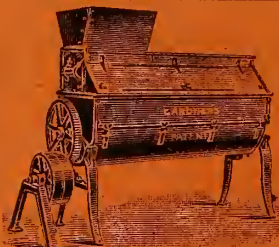


Fig. 4

Large Capacity Machines

from 5 cwt. to 4 tons at a charge, in a variety of sizes



CABINET PATTERNS

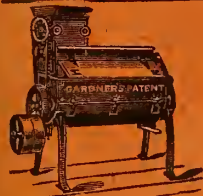


Fig. 6

GARDNER'S PATENT "RAPID" SIFTER, MIXER and CRUSHER or GRINDER

Breaks down large and hard lumps in Sugar, Acids, Chicory, Salt, Colours, Soda and small enough to be reduced, sifted and mixed.

Prices from £20 upwards

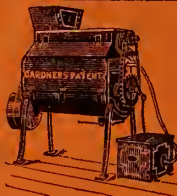


Fig. 7

GARDNER'S PATENT "RAPID" SIFTER, MIXER and ESSENCE SPRAYER

For adding Liquids, Essences, Flavours, Liquid Colours, Oils, &c., to Sugar, Acids, Flour, Face Powders, Disinfectants, Seasonings and many kinds of Powders and Crystals during mixing.

Prices from £30

For Counter quantities. Work and containing features of Patterns.

Size A—About £7 7s.

Size B—About £9 9s.

GARDNER'S PATENT "RAPID" SIFTERS (Figs. 8 to 12)—Power Sizes—Sift any kind of Dry Powders and pulverise any that may be as Tartaric Acid, Bicarbonate of Soda, Magnesia Arrowroot, Sugar, Flour, Colours, Sheep Dip, &c.



Fig. 8

Open Bottom Pattern



Fig. 9

Hopper Bottom Pattern



Fig. 10

Worm Bottom Pattern

From £6 upwards



Fig. 11

Large Capacity Worm Bottom

Iron Stand

From £8 upwards

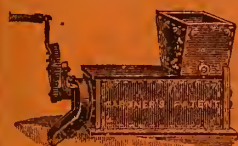


Fig. 13

OPEN BOTTOM HAND GEAR SIFTER

For fitting on Box, Trough or Bin.



Fig. 16

PILLAR AND CHAIN DRIVEN SIFTERS

When space is limited, it is an advantage to hang Sifters under the floor, and this Patent Drive overcomes the difficulty.

Fig. 16 shows the Sifter driven from above and Fig. 17 below the floor.

From £8 upwards



Fig. 17

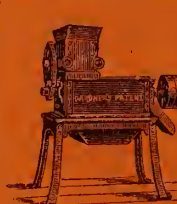


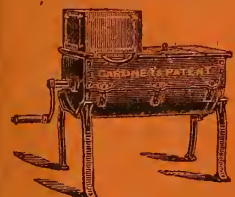
Fig. 18

GARDNER'S PATENT "RAPID" SIFTER WITH CRUSHING ROLLS

For similar work to that shown in place of the ordinary hopper in our other types, the Revolving Crushing Rolls, which tear any hard lumps formed into small pieces before passing to chamber.

Prices from £18 upwards

GARDNER'S PATENT "RAPID" MIXERS



For Hand Use Hopper Top Pattern

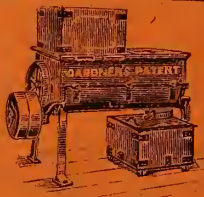


Fig. 25

Gear Drive, strongly recommended for power

Prices from £4 10s. upwards

Fig. 26

Large Capacity

For Cattle Foods, Meals, &c.



Fig. 28

GARDNER'S PATENT "RAPID" DRYER

Will dry moisture from all kinds of goods and entirely dispenses with open stoves and other old-fashioned drying and conditioning processes. Moisture is removed from most powders in minutes. Machines made for heating

Made for continuous work for economising space and heating surface.

Prices from £12 upwards

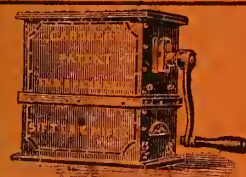


FIG. 31 GARDNER'S INDISPENSABLE

Sifts and Mixes Powders only, but does not reduce lumps like our "Rapid" Patterns; useful for Samples, Sachet Powders, &c.

Prices from 55/-

MILLSTONES. Either French, Derbyshire or Welsh Stones of any diameter supplied for grinding every kind of material. We build Stones to suit any requirements. We also manufacture ARTIFICIAL MILLSTONES. Write for Prices

We also make the Complete Mills with Driving Gears and erect in any part of the kingdom.

Fig. 47



GARDNER'S PATENT "COLONIAL" PATTERN SIFTER & MIXER

Has been designed in response to enquiries for a cheaper type than our world renowned patent "Rapid" patterns and where it is not so necessary to thoroughly clean machine out after each mixing. It will give good results on dry powders.

PRICES	Sifting Machines only	from £2 10 0
	Mixing Machines only	from £4 0 0
	Combined Sifting and Mixing Machines	from £8 0 0

Best Iron Stands suitable for raising machine up to any desired height can be supplied at an extra charge
WRITE FOR FURTHER PARTICULARS.

GARDNER'S "QUICK CHANGE" POWDER DRESSER

With Automatic Regulating Feed



The Machine illustrated above is designed to meet the views of clients who require to dress or sift many classes and varieties of powders in the course of a day, such as **Manufacturing Chemists, Wholesale Druggists, Colour Manufacturers, Perfumers, &c.**, also for **Face Powders, Ultramarine, Ceramic Colours and Glazes, Cocoa and Chocolate Powders, etc.**

PRICES FROM £20 UPWARDS.

We also manufacture a smaller machine, similar in working to above, for hand use, this machine having been designed for treating small quantities of powders.

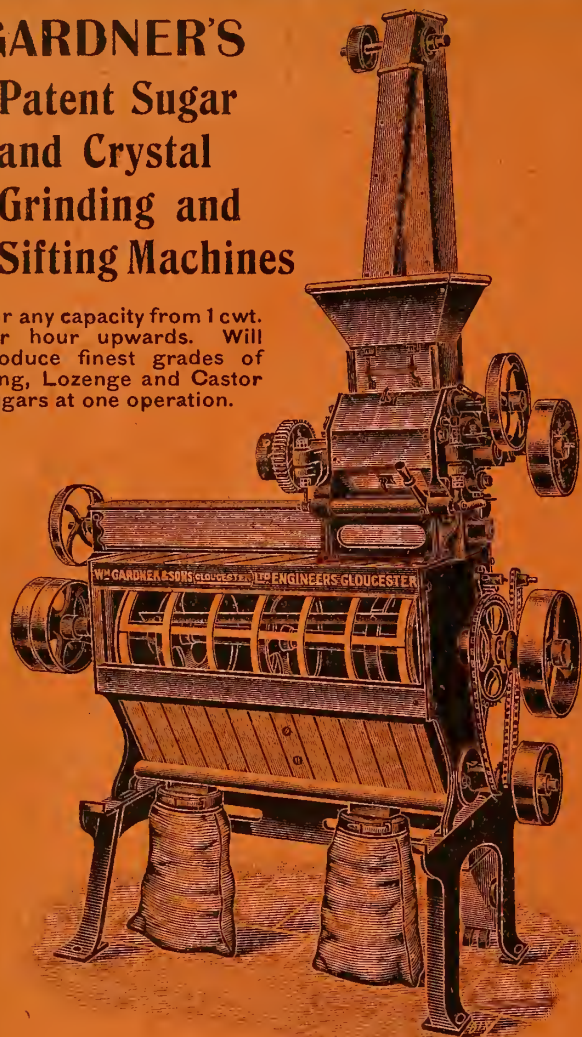
PRICES FROM £10 10s. UPWARDS.

Our Centrifugal Reel Dressing Machines, Flat Separating Sieves, Rotary Sifters and many other types.

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For any capacity from 1 cwt. per hour upwards. Will produce finest grades of Icing, Lozenge and Castor Sugars at one operation.



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CRUSHING, GRINDING AND KIBBLING MACHINERY of all descriptions, by Stones, Roll Disintegrators, Vertical Mills, &c.

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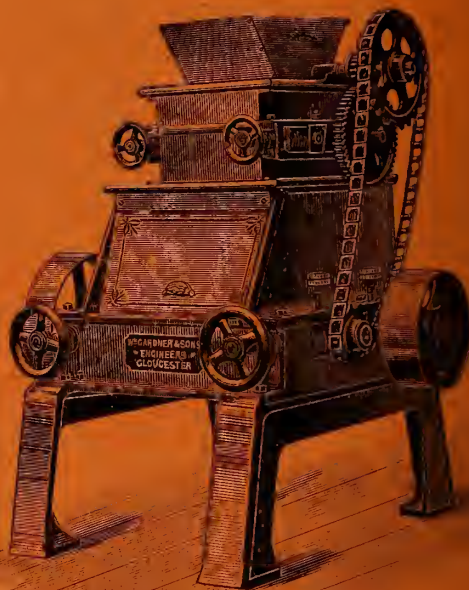
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GARDNER'S New Combined Double Crushing & Grinding Mills



For Infants' and Invalids' Foods, Biscuits, Rice, Salt, Crystals, Chloride of Potash, and all lumpy friable matter requiring to be broken down and ground to powder.

The Machine is fitted with two sets of heavy Crushing Rolls, and made in various sizes.

Quotations sent on receipt of particulars stating work required.

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For ALL Bilious and Nervous Disorders,
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IN BOXES, 1s. 1½d. AND 2s. 9d. EACH, WITH FULL DIRECTIONS.

Home Retailers of BEECHAM'S PILLS desirous of exhibiting Showcards or Dummies, and wishful to have a good supply of Handbills various sizes and colours, with name and address at foot), Oracles, &c., should apply to the Proprietor—

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 *Acet. Ipecac. B.P., 7 lbs. @ 1/5 lb. [extra].
 *Scilla, B.P., 7 lbs. @ 3d. lb.
 *Acid. Acet. Glacial, 99% Carboys, 160 lbs. @ 4½d. lb.; 12 6-lb. bots. @ 7d. lb.; 6 lbs. @ 8d. lb.
 "Acetylo-Salicyl., 1 cwt. @ 1/10½ lb.; 56 lbs. @ 1/11 lb.; 7 lbs. @ 2/2 lb.; 1 lb. @ 2/5 lb.
 "Boric Pulv., 3 cwt. @ 32/- cwt.; 1 cwt. @ 32/6 cwt.; leviged 3/- cwt. or ¾d. lb. extra.
 "Carbol. Xts., 39/40; 56 lbs. @ 5d. lb.; 10 lb. Tins @ 6/- each; 36 1-lb. Bots. @ 9½d. lb.; Single Bots. @ 1/- lb.; Detached Cryst. 10 lb. Tins @ 8/- each; 1 lb. @ 1/2 lb.; Crude Black, 45 gall. casks @ 1/- gall.; 5 gall. drums @ 1/4 gall.; 1 gall. tins @ 1/6 each.
 "Diethylbarbituric, 16 oz. @ 16/- lb.; 1 oz. @ 1/4 oz.
 Ammon. Brom. P.B., 1 cwt. @ 2/1½ lb.; 7 lbs. @ 2/3 lb.
 Ammon. Carb. lump, 3 cwt. @ 4d. lb.; 28 lbs. @ 5½d. lb.; 7 lbs. @ 5½d. lb.; powder, ¾d. lb. extra.
 Amyli Pulv. 10 cwt. @ 11/6 cwt.; 2½ cwt. @ 13/- cwt.; 1 cwt. @ 15/- cwt.
 *Aqua Anethi Conc. 1-40, 1 lb. @ 2/11 lb.
 "Anisi Conc. 1-40, 1 lb. @ 3/1 lb.
 "Aurant. Trip., 53 lbs. for 17/6; 6 lbs. @ 7d. lb.
 "Aurant. Conc. 1-40, 1 lb. @ 6/1 lb.
 "Cinnam. Conc. 1-40, 1 lb. @ 3/4 lb.
 "Rosae Trip., 53 lbs. for 22/6; 6 lbs. @ 7d. lb.
 "Rosae Conc., 1-40, 1 lb. @ 7/- lb.
 "Samb. Conc. 1-40, 1 lb. @ 6/1 lb.
 "Samb. Trip. 53 lbs. for 23/6; 6 lbs. @ 8d. lb.
 Ess. Limonis (oil) original coppers, 12 lbs. @ 8/6 lb.; 6 1-lb. bots. @ 9/3 lb.; not guaranteed absolutely pure.
 *Ext. Belladonnae Liq., B.P., 5 lbs. @ 4/3 lb.; 1 lb. @ 4/8 lb.; solid, 7 lbs. @ 4/3 lb.
 Ext. Cascara Sag. Liq., B.P., 1 cwt. @ 1/0½ lb.; 10 lbs. @ 1/2 lb.
 *Ext. Ergot. Liq. P.B., 5 lbs. @ 4/- lb.; 1 lb. @ 4/6 lb.; Solid, P.B., 4 lbs. @ 17/- lb.; 1 lb. @ 18/- lb.
 Ext. Gent. P.B., solid, 1 cwt. @ 9½d. lb.; 7 lbs. @ 10½d. lb.
 *Ext. Glycyrrh. Liq., B.P., 6 lbs. @ 1/4½ lb.
 *Ext. Hamamelis Liq., P.B., 5 lbs. @ 3/5 lb.
 Ext. Hyoscyam., Solid, B.P., 3 lbs. @ 4/9 lb.; 1 lb. @ 5/1 lb.
 Ext. Malti c. Ol. Jecoris, 10 lbs. @ 5½d. lb.
 *Ext. Nucis Vom. Liq., P.B., 5 lbs. @ 3/- lb.; 1 lb. @ 3/3 lb.; solid, 5 lbs. @ 2/9 lb.; 1 lb. @ 3/- lb.
Ferri Ammon. Cit., P.B., 28 lbs. @ 2/6 lb.; 7 lbs. @ 2/7 lb.
 Ferri et Quininae Cit. P.B., 500 ozs. @ 5½d. oz.; 100 ozs. @ 6d. oz.; 25 ozs. @ 6½d. oz.
Gum Acaciae sorts, 3 cwt. @ 44/- cwt.; 1 cwt. @ 47/6 cwt.; 7 lbs. @ 6½d. lb.; English Ground Powder, No. 1, 1 cwt. @ 95/- cwt.; 7 lbs. @ 1/1 lb.; No. 2, 1 cwt. @ 75/- cwt.; 7 lbs. @ 10d. lb.
Honey, Pale Set, Jamaica, 3½ cwt. @ 37/- cwt.; 28 lbs. @ 50/- cwt.; Californian, ½ cwt. @ 52/6 cwt.; 7 lbs. @ 7½d. lb.
 Icthyol Ammon., 3 lbs. @ 10/9 lb.; 1 lb. @ 11/- lb.
 *Liq. Iodi Fort, B.P., 5 lbs. @ 5/6 lb.
 "Morphinae Acet. or Hydrochlor., P.B., 6 lbs. @ 2/9 lb.
 "Opil Sed., 5 lbs. @ 4/6 lb.
 "Plumbi Subacet., P.B., 7 lbs. @ 3½d. lb.
 "Pruni Virg. p.s. 1-7, 5 lbs. @ 2/2 lb.
 "Rheoads pro Syr., 1 to 7, 5 lbs. @ 1/11 lb.
 "Rhei p.s. 1-7, 6 lbs. @ 2/2 lb.
 "Santali Co., 1 lb. @ 4/- lb.
 "Senna Dulc. 6 lbs. @ 1/4 lb.
 "Senna pro Syr. 1-7, 6 lbs. @ 2/- lb.
 "Strychninae Hyd. P.B., 6 lbs. @ 1/6 lb.
 "Tolut. pro Syr. 1-7, 6 lbs. @ 1/8 lb.
Naphthalene Candles or Balls, 1 cwt. @ 13/6 cwt.; 56 lbs. @ 16/- cwt.; 28 lbs. @ 18/- cwt.
Ol. Caryoph. Ang., B.P., 9 lbs. @ 4/3 lb.; 4½ lbs. @ 4/5 lb.
 Ol. Eucalypt., B.P., 1 cwt. @ 1/4½ lb.; 28 lbs. @ 1/5½ lb.; 9 lbs. @ 1/7 lb.
 Ol. Geranii Gall. Opt., 1 lb. @ 28/- lb.; 8 1-oz. bots. @ 2/3 oz.; 1 oz. @ 2/6 oz.; Turc., 1 lb. @ 12/6 lb.; 4 ozs. @ 15/- lb.
 Ol. Gynocardiae, 5 lbs. @ 4/- lb.; 1 lb. @ 4/3 lb.
 Ol. Juniperi Bacc., B.P., 4½ lbs. @ 3/8 lb.; 1 lb. @ 4/1 lb.; Ligne Exot., 1 cwt. @ 1/2 lb.; 28 lbs. @ 1/4 lb.; 9 lbs. @ 1/5 lb.
 Ol. Lavand. ab Flor., 5 lbs. @ 13/- lb.; 1 lb. @ 13/6 lb.
 Ol. Menth. Pip. English, 5 lbs. @ 35/- lb.; 1 lb. @ 36/6 lb.
 Ol. Olivæ, P.B., good yellow, guaranteed pure, 45 gall. barrels @ 4/10 gall.; 2 gall. tins @ 5/9 gall.
 Oxymel Scilla, B.P. 5 cwt. @ 34/6 cwt.; 1 cwt. @ 36/6 cwt.; *7 lbs. @ 7d. lb.

OUR NEW DETAILED PRICE LIST FOR JULY IS NOW READY.

- *Aqua Laurocerasi, 53 lbs. for 20/-; 6 lbs. @ 7d. lb.
 *Menth. Pip. Conc., 1-40, 1 lb. @ 3/- lb.
 Argent. Nit., 6's to 5 oz., 25 ozs. @ 1/11½ oz.; 1 oz. @ 2/1 oz.
 "Cryst. 25 oz. @ 1/8 oz.; 8 oz. @ 1/9 oz.
Bals. Copaiba, pure, 44 lbs. @ 2/- lb.; 9 lbs. @ 2/1 lb.; 1 lb. @ 2/6 lb.
 "Peruv., P.B., 7 lbs. @ 7/6 lb.; 1 lb. @ 8/- lb.
 "Sulphur, 7 lbs. @ 8d. lb.
 "Tolut. B.P., 50 lbs. @ 2/8 lb.; 1 lb. @ 3/9 lb.
 Benzoe-Naphthol, 7 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.
 Bismuth, P.B., Carb., 28 lbs. @ 8/8 lb.; 7 lbs. @ 8/10 lb.; 3 lbs. @ 9/1 lb.; 1 lb. @ 9/3 lb.; subnit. 1/- lb. less.
 Boracic Mixture, 1 cwt. @ 43/6 cwt.
 Borax, 1 cwt. @ 19/6; powder 1/- extra.
 Butyl Chloral Hydras., P.B., 1 lb. @ 8/10 lb.
Camphor, English Flowers, "not artificial," 5 lbs. @ 2/- lb.; 7 lb. tabs., ½ oz., ½ oz., or ¼ oz. @ 2/1 lb.; Crude, good white, about 92% as imported, 140 lbs. @ 1/7 lb.; 28 lbs. @ 1/8 lb.
 Cocaine Hydrochlor., B.P., 25 ozs. @ 4/8 oz.; 4 ozs. @ 5/- oz.; 1 oz. @ 5/9 oz.
 Cream Tartar, 98% powder, 1 cwt. @ 101/- cwt.; 7 lbs. @ 1/- lb.
 *Dec. Aloes Co. Conc. 1-2, 6 lbs. @ 2/9 lb.; Sinecroco, 6 lbs. @ 1/2 lb. (lb.)
 "Cinchona (Rubra) Conc. 1-7, 6 lbs. @ 1/10 lb.
 "Senega Conc., 6 lbs. @ 2/6 lb.
Emulsion Ol. Morrhuæ, 5 lbs. @ 11d. lb.
 Ess. Bergam. (Oil), 12 lbs. @ 18/6 lb.; 1 lb. @ 19/6 lb.; not guaranteed absolutely pure.
 *Inf. Aurant. Conc., 1 to 7, 6 lbs. @ 1/3 lb.
 "Aurant. Comp. Conc., 1 to 7, 6 lbs. @ 1/3 lb.
 "Buchu Conc., 1 to 7, 6 lbs. @ 2/2 lb.
 "Calumbæ Conc., 1 to 7, 6 lbs. @ 11d. lb.
 "Caryoph. Conc., 1 to 7, 6 lbs. @ 1/- lb.
 "Cascarella Conc., 1 to 7, 6 lbs. @ 1/4 lb.
 "Cinchonae Acid, 1 to 7, 6 lbs. @ 1/7 lb.
 "Gentiana Co., 1 to 7, 6 lbs. @ 1/1 lb.
 "Quassia Conc., 1 to 7, 6 lbs. @ 9d. lb.
 "Rhei Conc., 1 to 7, 6 lbs. @ 1/6 lb.
 "Rosæ Acid. Conc., 1 to 7, 6 lbs. @ 1/8 lb.
 "Senega Conc., 1 to 7, 6 lbs. @ 2/4 lb.
 "Valerian Conc., 1 to 7, 6 lbs. @ 1/3 lb.
Lin. Camph. P.B., 40 lbs. @ 1/- lb.; 9 lbs. @ 1/1 lb.
 Lin. Sapo. Meth., 9 lbs. @ 7d. lb.
 "Tereb. Acet., B.P., 5 lbs. @ 1/- lb.
 Linseed C. Oil, Crushed, 3 cwt. @ 17/6 cwt.; 1 cwt. @ 18/6 cwt.
 *Liq. Ammonii Acetatis Conc. 1-7, 6 lbs. @ 8d. lb.; 1 lb. @ 10½d. lb.
 "Ammon. Aromat., 6 lbs. @ 9d. lb.
 "Antim. Chlor. Pure, 8 lbs. @ 6½d. lb.
 "Arsenicalis, B.P., 7 lbs. @ 4d. lb.; 1 lb. @ 7d. lb.
 "Arsenii Hydrochlor., P.B., 7 lbs. @ 4d. lb.; 1 lb. @ 7d. lb.
 "Bismuth, P.B., 6 lbs. @ 1/1 lb.
 "Copaiba Buchu et Cubeb., 5 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.
 "Easton, p.s. 1-3, B.P., 1 lb. @ 3/- lb.
 "Ferri Dialysatus, 6 lbs. @ 7d. lb.
 "Ferri Iod. p.s., 1-7, 1 lb. @ 7/6 lb.
 "Ferri Perchlor. Fort., P.B., 7 lbs. @ 4d. lb.
 "Ferri Phosph. Co. p.s., 1-7, 7 lbs. @ 1/6 lb.
 "Hamamelidis, B.P., 6 lbs. @ 1/1 lb. (lb.)
 "Hypophosph. Co. p.s., B.P.C., 1 lb. @ 3/4 lb.
Pepsin, B.P., 10 lbs. @ 9/4 lb.; 1 lb. @ 10/- lb.
 Phenacetin, P.B., pulv., 1 cwt. @ 2/11 lb.; 7 lbs. @ 3/1 lb.; 1 lb. @ 3/4 lb.
 Phenazone, P.B., 7 lbs. @ 6/11 lb.; 1 lb. @ 7/6 lb.
 Phenolphthalein, 7 lbs. @ 5/6 lb.; 1 lb. @ 6/- lb.
 Plumbi Acetas, Druggists', 1 cwt. @ 34/6 cwt.; 7 lbs. @ 5d. lb.; Powder, 1½d. lb. extra.
 Potass. Acetas. Gran., P.B., 28 lbs. @ 1/1 lb.; 7 lbs. @ 1/2 lb.
 Potass. Iod., P.B., 1 cwt. @ 11/8 lb.; 14 lbs. @ 11/11 lb.; 3 lbs. @ 12/- lb.
Rad. Jalap., English Ground, 28 lbs. @ 1/3½ lb.; 7 lbs. @ 1/4½ lb.
 Rad. Rhei, E.I., English Ground, 1 cwt. @ 1/3 lb.; 28 lbs. @ 1/6 lb.; 7 lbs. @ 1/7½ lb.
Saffron, Valentia, B.P., 7 lbs. @ 45/- lb.; 1 lb. @ 46/- lb.; 1 oz. @ 3/3 oz.
 Shellac (Orange), 1 cwt. @ 82/- cwt.; 7 lbs. @ 10½d. lb.
 *Syr. Aurant. P.B., 7 lbs. @ 9½d. lb.
 "Easton, B.P., 7 lbs. @ 1/0½ lb.
 "Ferri Iodid. P.B., 7 lbs. @ 1/5 lb.
 "Ferri Phosph. Co., 7 lbs. @ 5½d. lb.
 "Hypophosph. Co. B.P.C., 7 lbs. @ 9½d. lb.
 "Pruni Virg. B.P., 8 lbs. @ 7½d. lb.
 "Rhamni, 7 lbs. @ 10½d. lb.
 "Rhei, P.B., 7 lbs. @ 8d. lb.
 "Scilla, P.B., 7 lbs. @ 5d. lb.
 "Senna, P.B., 7 lbs. @ 8½d. lb.
 "Tolut. P.B., 7 lbs. @ 8½d. lb.
Ung. Acid. Boric, P.B., 28 lbs. @ 6d. lb.; Flav. 28 lbs. @ 4½d. lb.
 "Acid. Carbol., B.P., 28 lbs. @ 8d. lb.; 7 lbs. @ 9d. lb.; 1 lb. @ 11d. lb.
 "Galle, P.B., 7 lbs. @ 1/- lb.; 1 lb. @ 1/2 lb.; c. Opio, 7 lbs. @ 2/10 lb.
 "Resina, P.B., 28 lbs. @ 11d. lb.; 7 lbs. @ 1/- lb.

*Minimum quantity at these prices; Home Trade, 3 Winchester Quarts assorted; Export, 12 Winchester Quarts assorted
 NOTE.—Only terms Net Cash with order without discount, or orders accepted through London Merchants or Bankers.
 Goods carriage forward; all packages free; Export cases extra.

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"FRUIT

SALT."

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WE WARN BUYERS that fraudulent and ineffective articles, purporting to be Ichthyol, or "equal to Ichthyol," are offered by unscrupulous dealers.

GENUINE ICHTHYOL, as it has been studied and is wanted by the Medical Profession and supplied all the time to the Trade, is delivered by us in tins and bottles under our special label with our name, and can be obtained in original packing from any wholesale druggist in the U. K. The use of our Registered Trade Marks "ICHTHYOL" and "ICHTHYOLATE" for any other product means deception and dishonesty, and will entail their penalties.

PHYSICIANS, CHEMISTS, and DRUGGISTS are requested to report to us all cases where imitation products are suspected.

**Ichthyol-Gesellschaft,
Cordes, Hermann & Co.,
HAMBURG.**

DUTCH
*Sugar
of Milk.*
"THE BEST"

**HOLLANDSCHE
MELKSUIKERFABRIEK
Amsterdam.**

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Acetylin, Heyden's Acetylo-Salicylic Tablets, in tins of 20 or 40 tablets and in tubes of 20 tablets of 8 grains each; disintegrate readily in water, are very cheap and of perfect quality.

Collargol, a valuable remedy for general infections, particularly useful in puerperal sepsis. A non-irritant local antiseptic in the treatment of Gonorrhoea, Cystitis, etc.

Creosotal "Heyden" } the oldest makes
Duotal "Heyden" } on the market.

Doriform, Tetra-brom-pyro-catechin-bismuth, a new antiseptic for wounds.

Embarin, a powerful antisymphilitic.

Salit, a valuable embrocation in rheumatic affections.

Silver Proteinate, "Heyden," answering the P.B. test; at low prices.

Tannismut, an intestinal astringent, combining the action of Bismuth and Tannic Acid.

Salicylic Acid.

Soda Salicylic, Bismuth Salicylic,
Salol, Benzonaphthol, Solveol,
Guaiacol, Orphol,
Potash Sulphoguaiacolate,
Acetylo-salicylic Acid,
Acoin, Actol, Antiseptic Credé,
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Gastrosan, Hyrgol, Novargan,
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Sulfidal Paste, Unguentum Heyden,
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Obtainable through all Wholesale Houses.

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MALT AND MARROW.

A COMBINATION OF RED BONE MARROW AND FLUID EXTRACT OF ENGLISH MALT WITH GLYCEROPHOSPHATES. A VALUABLE NUTRITIVE AND DIGESTIVE TONIC.

Packed in 12 oz. round-edged amber bottles ... 21/- per doz. ret.

"VITANO."

"VITANO" is the name of a meat, malt, and port wine, originally put on the market at the suggestion of a well-known physician, who required a guaranteed article of definite quality and composition.

Prepared from choice, selected, matured wine, in combination with extract of meat and extract of malt, "Vitano" indicates a preparation of extreme usefulness in all cases of debility and want of general tone.

Dose: A small wineglassful three times a day.

"Vitano," in reputed pints ... doz. 12/-

"Vitano," in reputed quarts ... 24/-

PETROLEUM CONSERVE (Raspberry Flavour).

A preparation of specially purified petroleum, which is now widely used as a laxative. This preparation acts purely mechanically as a laxative and soothing lubricating agent. It is absolutely harmless and may be taken freely by all, including delicate children.

4 oz. Screw Cap Vases ... 6/- per doz.

"NAUTILUS" Series of TOILET PREPARATIONS.

Antiseptic Tooth Powder.—In boxes containing 12 tins. 3/6 per doz., 36/- per gross.

Bay Rum.—Small, 4/-; large, 7/6 per doz.

Brilliantine de Paris.—Small, 3/6; large, 6/6 per doz.

Eau de Cologne Bath Crystals.—3/6 per doz.; 36/- per gross.

Eau de Cologne Shampoo Powders.—Put up 7 in a box. 7/6 per dozen boxes. Also loose, 3 doz. in a box, 10/6 per gross.

Glycerine and Cucumber.—Small, 3/6; large, 6/6 per doz.

Household Ammonia (Rubber Corks).—Small, 4/-; large, 7/- per doz.

Lilac Shampoo Powders.—7/6 per gross. Put up in boxes of 3 doz. packets.

Moschettine.—Small, 9/-; large, 15/- per doz. A preventive application against the bites of Mosquitos, Gnats and Insects.

Nautilus Nail Polish.—4/- per doz.

Tincture of Myrrh and Borax.—Small, 6/6; large, 10/6 per doz.

Toilet Paraffin (Green or Golden).—Small, 3/6; large, 6/6 per doz.

PHOTOGRAPHIC SPECIALITIES.

"Photopel" was the first Compound Photographic Pellet put on the market, and was originally produced by ourselves, under Patent 6065 in 1889

"PHOTOPEL"

(REGISTERED)

A Developing Photographic Pellet.

The object of "Photopel" is to minimise the trouble of preparing developing solutions for photographic use, and to combine in a portable and permanent form the necessary materials for producing negatives or more finished pictures as opals, transparencies, etc. "Photopel" is alike adapted for Negatives, Opals, and Lantern Slides

Prices.—Bottles containing 24 Pellets of "Photopel" (sufficient for 24 $\frac{1}{2}$ -plates or 48 $\frac{1}{4}$ -plates), 8/- per doz. net.

PACKET DEVELOPERS (“Photopel Brand”).

PYRO-SODA. METOL-QUINOL. GASLIGHT PAPER. HYDROKINONE. Each packet makes 10 oz. of solution.

Prices.—Per doz., 1/3; per gross, 12/- net.

COMBINED GOLD TONING AND FIXING BATH. GOLD TONING BATH.

Prices.—Per doz., 1/6; per gross, 15/- net.

These are put up in boxes of one dozen each. Each powder is well wrapped in waxed paper, and will keep without deterioration for any length of time. Name and address on six dozen.

CONCENTRATED SOLUTION DEVELOPERS.

TWO SOLUTION.—Hydrokinone, Pyro-Metol, Pyro-Soda, Metol-Quinol, 7/- per doz. net.

ONE SOLUTION.—“Photol,” 3/6 per doz. net; Gold Toner, 5/6 per doz. net; Combined Gold Toning and Fixing Bath, 5/6 per doz. net.

These are packed in handsome card boxes with pull-off lid. These solutions will keep without change or deterioration. Developers make 20 oz. solution, Gold Toner makes 10 oz. solution, and Combined Bath makes 8 oz. solution.

Warehouses, Laboratories & Drug Mills, Coventry.

London Depot: 2 BATH STREET, CITY ROAD, E.C.

TWENTY YEARS OF PHYSIOLOGICAL STANDARDISATION.

FACTS FOR PHARMACISTS.

**1894.
Physiological Stand-
ardisation
introduced.**

Physiological Standardisation was introduced twenty years ago by Dr. E. M. Houghton, chief of Parke, Davis & Co.'s Biological Laboratory, Detroit, and physiologically standardised preparations were offered to the medical profession in America and Great Britain in 1895.

**1903.
Accepted by
British Phar-
macologists.**

Physiological Standardisation was not at that date, nor for some years afterwards, practised by any other firm. It was ridiculed and opposed in this country until 1903, when the method was recognised by pharmacologists and subsequently adopted by certain manufacturers.

**1909.
H.T.U.
Standard
adopted.**

The Heart Tonic Unit Standard was adopted by Parke, Davis & Co. in 1909, and this standard has since appeared on the labels of their principal Digitalis and Strophanthus preparations.

**1910.
Deteriora-
tion of Digi-
talis
announced.**

The deterioration of preparations of Digitalis was conclusively demonstrated in Parke, Davis and Co.'s Laboratory in 1910. Since that date the following notice has appeared in their price list:—"Since preparations of Digitalis are liable to gradual deterioration they should not be purchased in quantity larger than will be used in one year."

**1911.
Date of
manufacture
on labels.**

Parke, Davis & Co. in 1911 placed the date of manufacture on the labels of their preparations of digitalis, and up till a comparatively recent period their example was not known to have been followed by any European firm.

**1914.
Recent
Independent
Evidence.**

In the "Therapeutische Monatshefte," March 1914, Drs. Lehnert and Loeb write as follows:—"It is unquestionably a well-known fact that to-day American doctors take the lead in the method and reform of the Standardisation of Medicines. Thus it was the American, E. M. Houghton of Detroit, Michigan, who in 1894 was the first to apply physiological standardisation to the heart tonics."

**1894—1914.
Twenty
years' Ex-
perience.**

Pharmacists who purchase Parke, Davis & Co.'s preparations of the heart tonics and of other drugs which are Standardised Physiologically, secure the advantage conferred by the most extensive as well as the longest experience in standardisation.

PARKE, DAVIS & Co., 50-54 BEAK ST., **LONDON, W.**
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ESTABLISHED A.D. 1772.

HENRY'S CALCINED MAGNESIA.



For HEARTBURN, HEADACHE, GOUT,
BILIOUSNESS, ACIDITY OF THE
STOMACH. TRY

Henry's Calcined Magnesia

FREE FROM TASTE, SMELL OR
ROUGHNESS TO THE PALATE.

ADULTS.

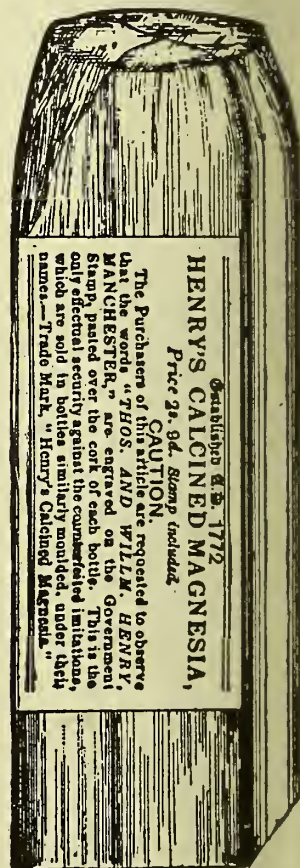
A Safe Aperient for the most delicate constitutions.

CHILDREN.

May be given to children in early infancy. The addition of a small quantity of the Magnesia prevents milk turning sour on the stomach.

MESSRS. THOMAS and WILLIAM HENRY, of Manchester, England, beg to inform the Trade generally that they continue to manufacture their old-established "CALCINED MAGNESIA" in the Greatest Chemical Purity, and also wish to warn Buyers against the numerous spurious and very inferior imitations offered in various foreign countries.

For the guidance of the Trade they submit facsimiles of their Bottle, wrapped and unwrapped.



THE LABELS CAN BE HAD IN ENGLISH, SPANISH, PORTUGUESE, OR ITALIAN

Messrs HENRY will be pleased to hear from Merchants who are suspicious of any Stock in their possession.

THE MAGNESIA MAY BE HAD THROUGH ALL WHOLESALE HOUSES.

Registered Trade Mark:—"HENRY'S CALCINED MAGNESIA."

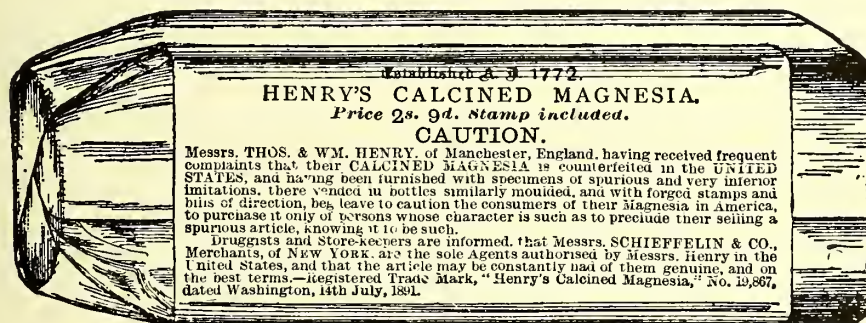
Messrs. THOMAS & WILLIAM HENRY, 11 East Street, St. Peter's, MANCHESTER.

To the American and Canadian Trade.

THE PROPRIETORS OF HENRY'S CALCINED MAGNESIA

desire to warn the Trade in Canada and the United States that gross imitations of their Magnesia are being produced in France and elsewhere, and are offered to foreign buyers. These articles closely resemble genuine HENRY'S MAGNESIA, in respect to Containers, Labels, Wrappers, and Government Stamp, and deceive all but the most wary, until the so-called Magnesia is tried. The imitations are most inferior.

The sale of these articles in England is a felony punishable by penal servitude for a term not exceeding fourteen years. The very serious nature of the offence deters the unscrupulous packers of the forged articles from offering them in England, and the Proprietors would point out to the Trade in Canada and the United States that they have a simple means of judging the genuineness of HENRY'S MAGNESIA, on examination of the true labels, which are here reproduced in facsimile.



Merchants who suspect they have false goods are invited to communicate with

THOS. & WILLIAM HENRY, MANCHESTER,

Or their Sole Agents for the United States,

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Who are authorised to take legal proceedings against all infringements brought to their attention.



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A.D.1715.

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Sera, Antitoxins, Vaccines, etc.

Diphtheria Antitoxin.

Liquid, in vials of 1,000 units, one vial in a case	1/6
Liquid, in vials of 2,000 units, one vial in a case	2/6
Liquid, in vials of 2,000 units, two vials in a case	5/-
Liquid, in vials of 4,000 units, one vial in a case	5/-
Dried, in vials of 4,000 units, one vial in a case	5/-
High potency liquid, in vials of 4,000 units, in about 4.5 c.c., one vial in a case	10/-
Diagnosis boxes, with two sterilised glass tubes and a sterilised swab	1/-

Tetanus Antitoxin.

Liquid, in vials of 10 c.c., three vials in a case	12/-
Ditto, single vials	4/-
<i>(Twelve vials necessary for a curative dose).</i>	
Dried, in vials of 1 gramme (= 10 c.c. liquid Serum)	4/-

Anti-Streptococcic Serum (multivalent).

In vials of 10 c.c., three vials in a case	7/6
Ditto, single vials	2/6
Diagnosis boxes, with sterilised pipette in glass tube	1/-
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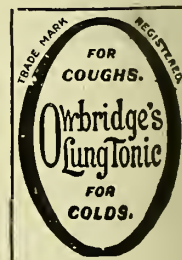
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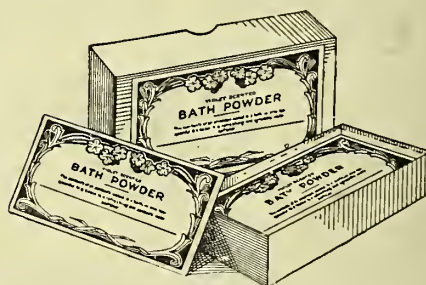
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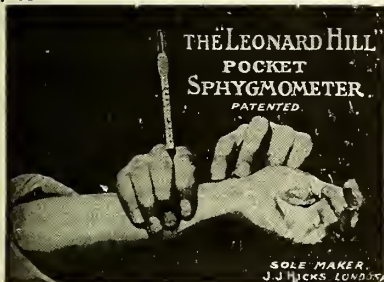
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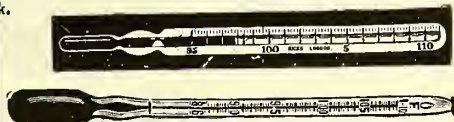
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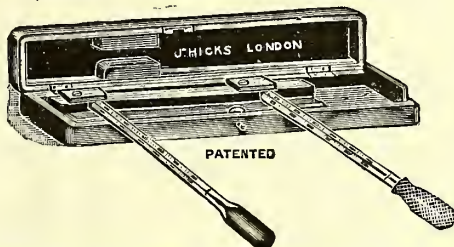
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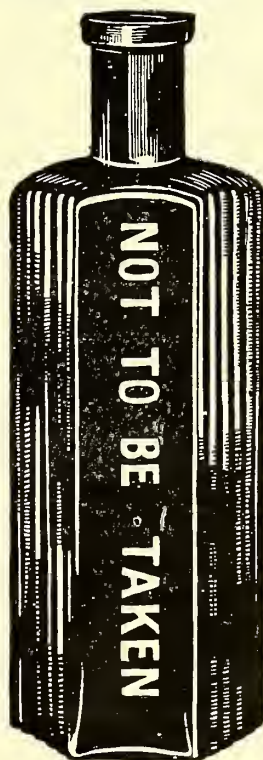
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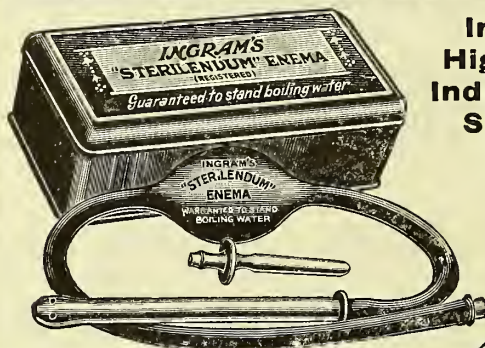
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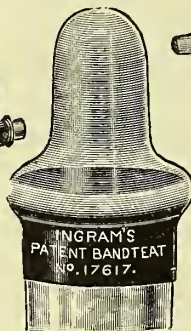


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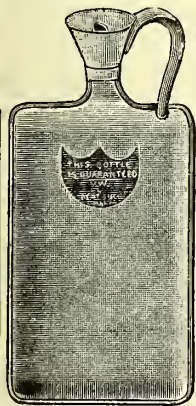
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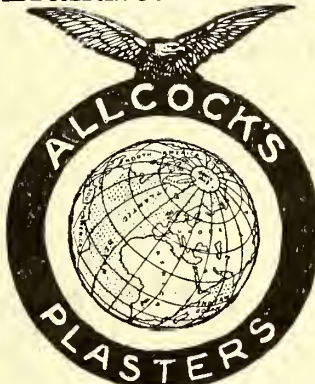
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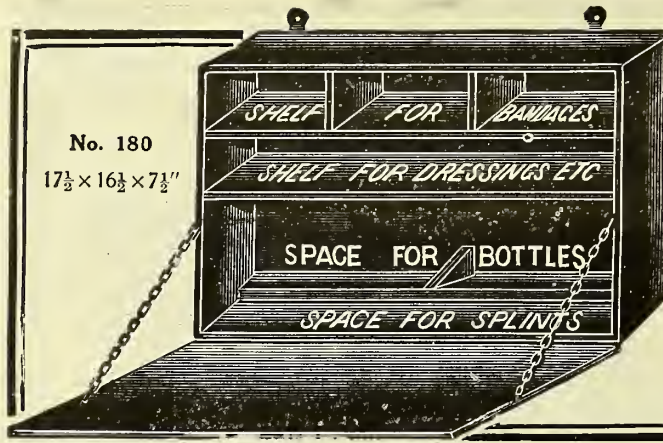
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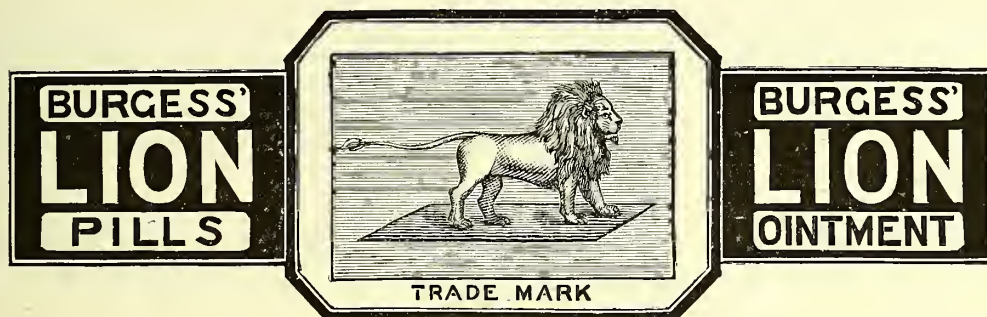
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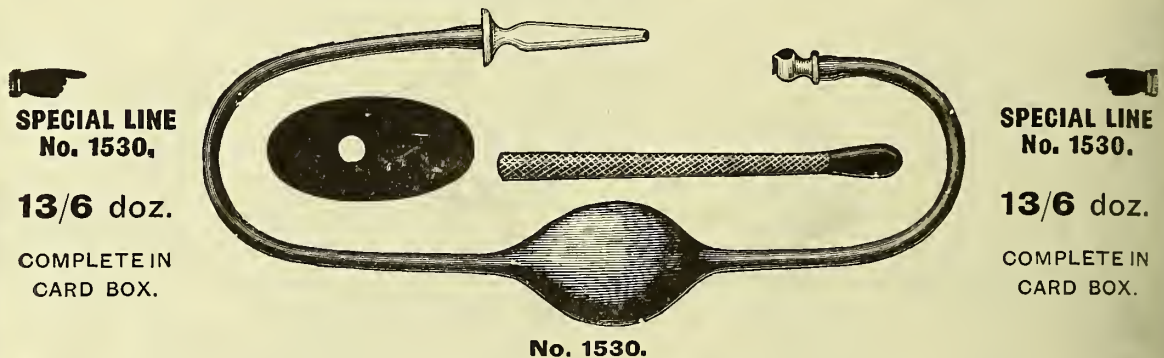
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	„ „ in 3 Dozen lots	„	0	10	0
	„ „ in 6 „	„	0	9	6

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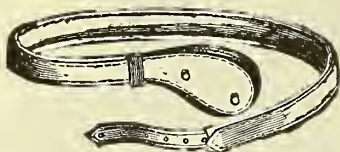


FIG. 31.

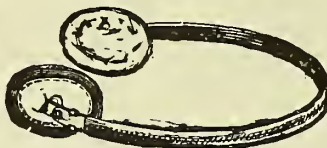


FIG. 40.

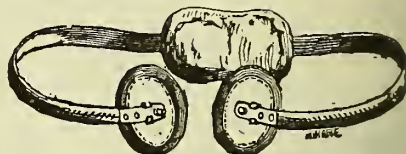


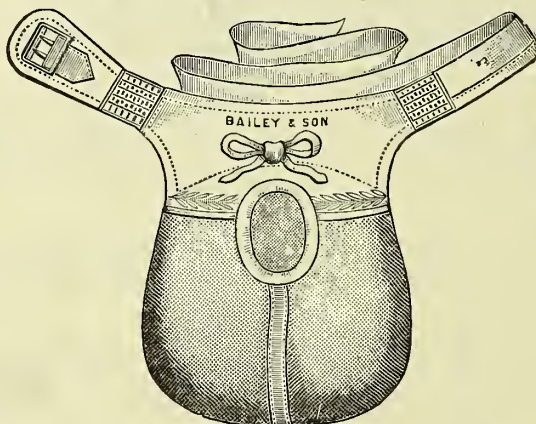
FIG. 41.

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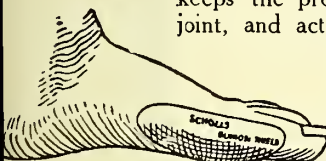
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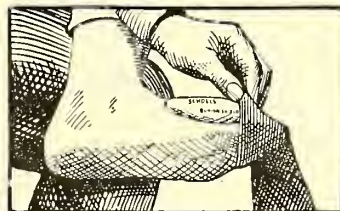
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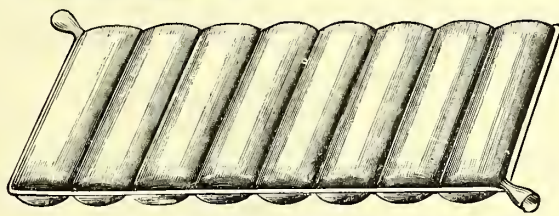
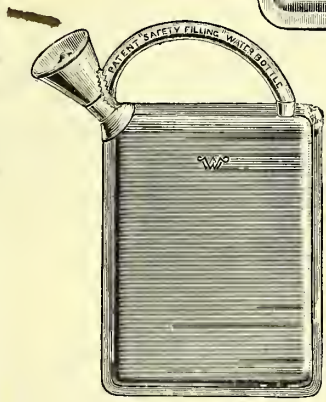
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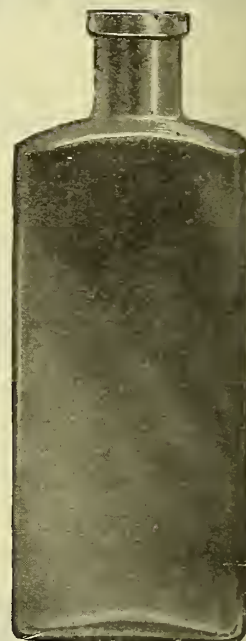
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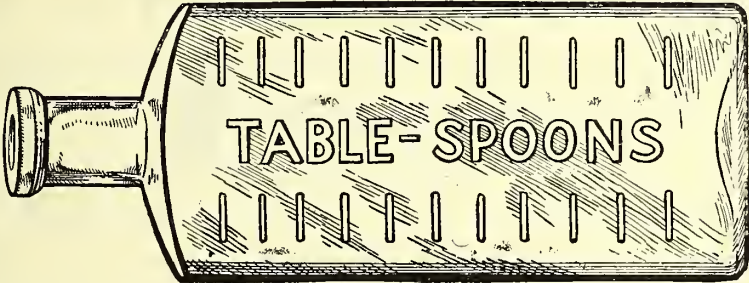
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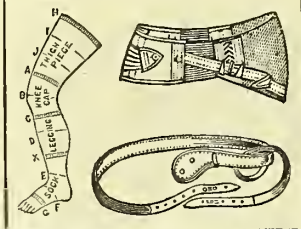
Before placing your orders elsewhere ask your Merchant to consult or write to

R. Orrock & Co. GLASS WORKS, Barking, Essex.

ESTABLISHED NEARLY A CENTURY.

J. H. HAYWOOD, Ltd. CASTLE GATE NOTTINGHAM

SURGICAL APPLIANCE MANUFACTURERS.



SPECIALITIES FOR SUMMER :

Elastic Hosiery, with or without Seams, suitable for Summer wear.
Trusses, Suspenders, Ladies' & Gents' Belts made from porous materials.
Elastic and Leather Wristlets, Arm-pieces and Elbow Supports, for
Cricket, Tennis, Golf and Boating.
Goods for Toilet and Seaside trade, Washing Gloves, Bathing Caps,
Water-Wings, &c.
India-Rubber Appliances and Druggists' Sundries.

Dr. BOW'S LINIMENT, LTD.

On P.A.T.A. List.

DR. BOW'S
LINIMENT.

PREPARED BY HIS GRANDSON.



Minimum Retail Price
2/6 & 1/12

The Gothic window (shown above) and also the name "Dr. BOW'S LINIMENT" are registered Trade Marks and appear on every bottle, and anyone using the name or any similar name or any liniment or similar preparation not prepared by the Company is liable to be proceeded against.

The above Label in blue appears on the outside wrapping of every bottle.

Dr. BOW'S LINIMENT, Limited, 8 Union Marine Buildings, LIVERPOOL.
7 South Gray Street, EDINBURGH.

BOTTLES :

YORKSHIRE MAKE



DISPENSING as illustrated, Plain or Graduated.

1½ & 2 oz.	3 & 4 oz.	6 & 8 oz.	10 oz.	12 oz.
7/9	8/-	9/-	13/-	14/6
	16 oz.	20 oz.		
	19/6	21/-	per gross.	

GREEN PANELLED (three sides)

1/- per gross extra to above prices up to 8 oz., 2/- extra beyond.

GREEN PANELLED HEAVY (for Cough Mixtures)

2½ oz. 8/9 ; 5 oz. 10/- per gross.

POISON. Oval Ribbed, Pale Green (for Ammonia)

3 & 4 oz.	6 & 8 oz.	10 oz.	12 oz.	16 oz.	20 oz.	per
9/6	10/6	13/6	15/-	19/6	21/6	gross.

VIALS and HEXAGON POISONS at proportionately low prices.

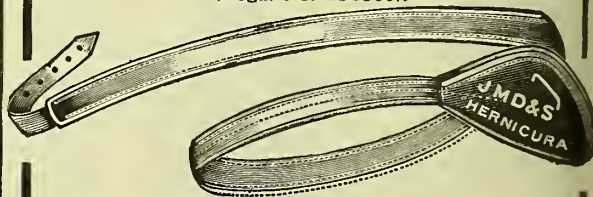
TERMS: NET CASH 7 DAYS. CRATES 1/- EACH.

Carriage paid on 6 gross assorted crates up to 100 miles ex Leeds (small extra charge beyond that distance)

THOMAS SWALES,
24 BUTTS COURT, LEEDS.

"HERNICURA" Trusses

(Regd. No. 254807).



REASONS WHY

you should stock "HERNICURA" Trusses.

THERE ARE NO OTHER TRUSSES ON THE MARKET SO MARVELLOUS IN VALUE, SO EASY TO FIT, AND THAT GIVE SUCH ENTIRE SATISFACTION TO YOUR CUSTOMER.

WRITE FOR PRICE LIST.

Prices from 18/- per dozen.

Specimens submitted, on appro., post free.

JOHN MORGAN DAVIS & SONS,

Truss and Surgical Appliance Makers,


278 BISHOPSGATE, LONDON, E.C. 2



BOTTLES.




WE beg to advise our numerous customers and the trade generally that we are continually adding new patterns of bottles for the use of the Drug and Perfumery Trade to our already extensive and varied stock, making it one of the most comprehensive selections of bottles in the trade.



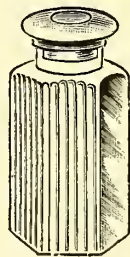
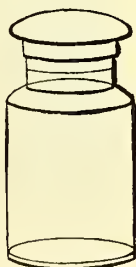
We have a large and competent staff of stopperers working on the premises, this being a department in which we have always specialised.

We shall be pleased to submit samples of and quotations for any bottles from our stock.




WILLIAM TOOGOOD, LTD.

77 Southwark St., LONDON, S.E.



THE NATURAL MINERAL WATER

VICHY-CÉLESTINS

STATE SPRING.

**DISORDERS OF THE LIVER;
GOUT;**

DIABETES; RHEUMATISM; GRAVEL, &c.

VICHY-ÉTAT PASTILLES.

Two or three Pastilles after each meal facilitates digestion.

CAUTION: Each bottle from the STATE SPRINGS bears a neck label with the words "VICHY-ÉTAT" and the name of the SOLE AGENTS:

INGRAM & ROYLE, Limited,

Bangor Wharf, 45 Belvedere Road, London, S.E.
And at LIVERPOOL and BRISTOL.

Genuine Thermos Flasks

NEW PATTERNS FOR 1914.

Immense Improvements!



PRICES TO SUIT
EVERYBODY.

Retail Price

from **2/6** each.

LIBERAL TRADE
DISCOUNT.

WRITE FOR FEBRUARY
1914 PRICE LIST.

Sole Manufacturers and Distributors:—

**Thermos Limited, 8 Long Lane,
Aldersgate Street, London, E.C.**

THEIR PRICE

is the only thing that is

“CHEAP”

about the SUPERTESTED

“ROC” VACUUM FLASKS



¶ One quality only—the BEST—in different casings to suit all requirements and purses.

¶ Every grade has the same super-tested vacuum bottle as is found in the most expensive makes—and many unique features which increase their strength and diminish risk of breakage.

READ & CAMPBELL, LTD.,
Craig's Court, Charing Cross, LONDON, S.W.

HAY'S

*CONCENTRATED
SOLUBLE & FRUIT*

ESSENCES

Are Acknowledged to be
the finest in the Market

*For the Manufacture of High-class
Aerated Beverages, Liqueurs, Cordials,
Syrups, &c.*

LONDON

WILLIAM HAY, Ltd., Essence Distillers.

LONDON DEPOT—3 York St., WALWORTH, S.E.

Head Office and Laboratories—HULL.

Telegraphic Address: { "Bushworth, London."
"Hay, Limited, Hull."

Code: A.B.C., 5th Edition.

Orders for Two Gallons and upwards of Essence may be shipped under Bond.

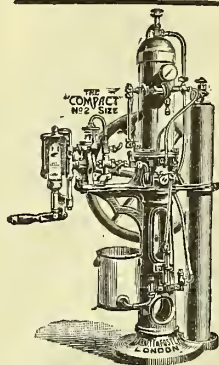
Indentors when ordering should specify HAY'S Manufacture.

BARNETT & FOSTER

11
GOLD MEDALS.

*The Best House in the World for all
requirements of the Mineral Water Trade.*

49
HIGHEST AWARDS.



THE "COMPACT" complete Soda-water Machine

For use with Compressed Carbonic Acid Gas is specially designed FOR CHEMISTS, and is provided with one or more filling machines.

Occupies little space. Ready for immediate use. Requires no fixing.

Produces Soda-water, Lemonade, etc., of the highest quality and greatest purity.

PRICES—

No. 1.—Capacity 1,200 dozen per day, including Filling Machines for Bottles and Syphons ... £60

No. 2.—Capacity 600 dozen per day, including Filling Machines for Bottles and Syphons ... £48

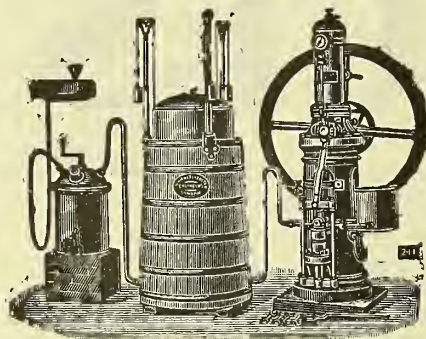
No. 3.—Capacity 300 dozen per day, including Filling Machines for Bottles or Syphons ... £33

We also make a smaller machine at £20.

THE PERFECTION OF SIMPLICITY.

AUTOMATIC CARBONATION.

To those who can spare space in which to generate their own gas, we offer the "Niagara" machines advertised below.



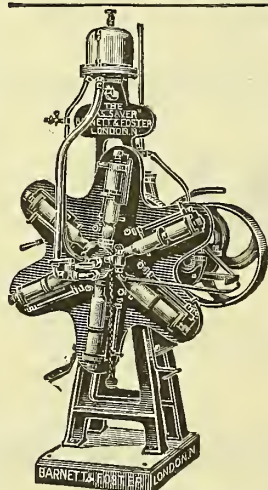
THE "NIAGARA" Soda-water Machine (Continuous Action).

This machine is superseding all other types for the manufacture of FIRST-CLASS Aerated Waters, and is in use in most of the leading manufactories throughout the world.

PRICES, COMPLETE, from £30,
FITTED FOR HAND AND POWER

Particulars of Larger Sizes on application.

NOTE.—These machines are sent out by us complete and ready for work. We include all necessary connecting pipes **without extra charge.** No "extras" to pay for after buying our machines.



THE "GAS-SAVER,"
Price £60

STUDY QUALITY—AS CHEMISTS MUST—

By Bottling on our Latest Types of Filling Machines. We Guarantee the

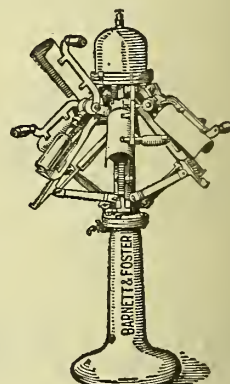
Highest Quality Soda-water at 60-lb. Pressure!

thereby Saving Gas, avoiding Bottle-breakage and improving quality of Products.——The secret:

BACK PRESSURE—PROPERLY APPLIED.

Particulars of the "GAS-SAVER," for filling Codd's and Niagara Bottles; The "ROUNABOUT," for filling Corked, Crowned and Screw Bottles sent on application.

SAVE MONEY.



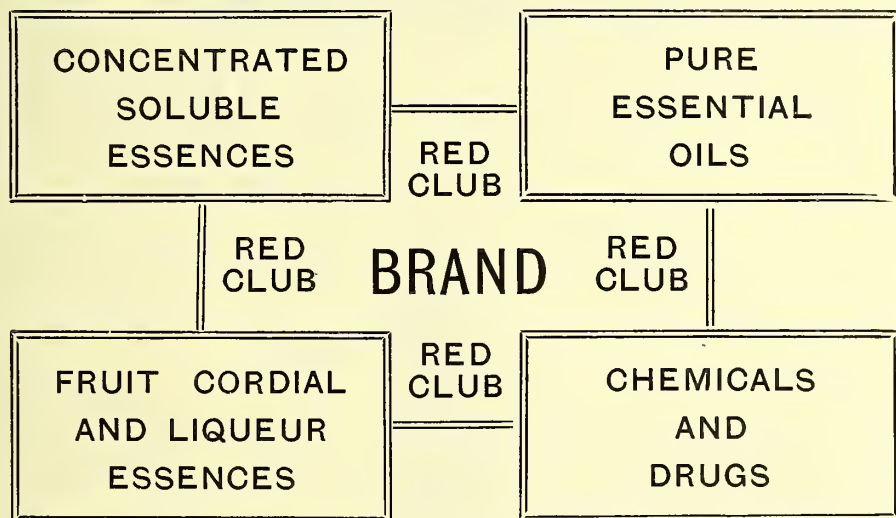
THE "ROUNABOUT,"
in 6 sizes, prices from £25

CATALOGUE of all our Manufactures, including Syphon-filling Machines, Syphons, all classes of Bottles, Modern Bottle-washing Appliances, Ice and Refrigerating Plant, Essences, Flavoursings and Drugs, and every requirement of the trade sent FREE on application to—

NIAGARA WORKS, 26th EAGLE WHARF ROAD, LONDON, N.,
AND AT BOLTON, LANCs.

BARNETT & FOSTER

Essence Distillers, Manufacturing, Analytical and Consulting Chemists to the Aerated Water, Brewing and Confectionery Trades.



HARMLESS LIQUID COLOURINGS FOR AERATED BEVERAGES.
HARMLESS COLOURS IN POWDER FOR CONFECTIONERY.
"NIAGARA" SOLUBLE HEADING POWDER.

"NIAGARA FOAM"

A highly concentrated heading liquid for imparting a rich, creamy, close, and lasting head to beverages of all kinds.

"NIAGARA SPRING-WATER CRYSTALS"

Enable water to absorb a much larger proportion of Carbonic Acid Gas, and thus greatly increase its briskness and vivacity.

EXTRACTS FOR BREWING NON-ALCOHOLIC BEVERAGES; FININGS FOR SYRUPS, BEERS, WINES, AND CORDIALS. CONCENTRATED VINEGAR ESSENCE. ALL CHEMICALS, DRUGS, HERBS AND MATERIALS EMPLOYED BY MINERAL-WATER MAKERS, BREWERS, CONFECTIONERS, LIQUEUR AND CORDIAL BLENDERS.

Liquid and Solid Preservatives.

Pure Salts for Mineral Waters.

Orders for Two Gallons and upwards of Essences can be shipped in bond. This quantity may be made up of different Essences, and the Bottles may be of different sizes.

MONTHLY PRICE LIST ON APPLICATION.

SPECIFY "RED CLUB" BRAND ON INDENTS.

Office and Laboratories—

Telegraphic Address—"DRINKS LONDON."

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Cape Town, P.O. Box 1391 ; Manager, Mr. F. G. INGRAM.
Indian Agents : S. FITZE & CO., Ltd., Bombay, Calcutta, Karachi.
Australian Agents : E. F. BROAD, Ltd., Brisbane and Sydney.

} Stocks held.

Soda Water.
Potash Water.
Seltzer Water.
Lithia Water.
Lemonade.
Ginger Ale.

Dry Ginger Ale.
Champagne
Ginger Ale.
Kola Champagne.
Orange
Champagne.
Koolime.

Lime Juice Cordial.
Pure Lime Juice.
Lemon Squash.

Fruit Syrups.

**SPARKLING
PHOSPHADE**

A Delicious Tonic.

IDRIS

SODA WATER

IN CHINAWAYS . . .

"THE WHITE SPOUT SYPHON."



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Supplied
to
H.M.
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PREPARED EXPRESSLY FOR OAKEY'S KNIFE BOARDS.

All Patent Knife Cleaning Machines, and Rubber and Buff Leather Knife Boards

Knives constantly cleaned with it have a brilliant polish equal to new cutlery, and are not injured as they are when common imitations of Oakey's Knife Polish or when Bath Brick are used.

Canisters, 1d., 2d., 3d., 6d., 1s., 2s. 6d., 4s. each.

Oakey's "Wellington" Knife Boards.

The best and cheapest articles ever introduced to the Public, for expeditiously and brilliantly polishing Knives. Made in all sizes. Oakey's "Wellington" Knife Polish should be used with the boards.

Oakey's "Wellington" Silversmiths' Soap.

The best and cheapest article for cleaning and polishing without waste or dirt, Silver, Electro-Plate, Britannia Metal, Tin, Zinc, Plate Glass, Marble, Gas Globes, Lustres, Windows, &c. Tablets, 6d. each.

Oakey's "Wellington" Black Lead.

Imparts an immediate, brilliant, and lasting polish to all kinds of Stoves, Ironwork, &c. No WASTE, DIRT, or DUST in the use—adheres at once to the stove. Solid Blocks, 1d., 2d., and 4d. each, and 1s. Boxes.

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In Circular Polished Blocks, $\frac{1}{2}$ d. and 1d. each; packed also in fancy boxes at 6d. each, containing 1 doz. $\frac{1}{2}$ d. blocks or $\frac{1}{2}$ doz. 1d. blocks.

Oakey's "Polybrilliant" Metal Pomade.

(REGISTERED.)

A magic Pomade for cleaning Brass, Copper, Tin, Pewter, Britannia Metal, &c. Never becomes dry and hard like other Metal Pastes. Tins, 1d., 2d., 3d., and 6d. each.

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Produces a most exquisite polish on Brass, Copper, Tin, &c. In fancy Boxes, 6d. and 1s. each.

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For cleaning and polishing Furniture, Patent Leather, Oilcloth, &c. Bottles, 6d. and 1s. each.

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For beautifying and preserving Stoves and all kinds of Ironwork. Bottles, 6d., 1s., and 2s. each; and $\frac{1}{2}$ and 1 Gallon Cans.

Oakey's Genuine Emery Cloth.

The best and most economical for all purposes. Each sheet of this quality is stamped "OAKEY'S GENUINE."

Oakey's "Flexible" Glass Paper.

Unequalled for Strength and Durability. Each sheet is Warranted and Stamped "OAKEY'S."

Flint and Garnet Sand Papers.

In Sheets and Rolls, for Machine use.

JOHN OAKEY & SONS, LIMITED

Manufacturers of Emery, Emery and Glass Cloths, Glass, Emery and Flint Papers, Black Lead, Knife Boards, Pumice, Putty Powder, Crocus, Rouge, Plate Powder, Furniture Polish, Brunswick and Berlin Black, &c.

AGENTS FOR THE SALE OF SCOTCH, TOWN, FRENCH, AND OTHER GLUES.

Wellington Emery and Black Lead Mills, Westminster Bridge Road, London, S.E.

TOOTH PASTES

IN PURE TIN COLLAPSIBLE TUBES.

RIBBON ORIFICE.

EXQUISITELY LABELLED.



THYMOL

DENTAL CREAM

CARBOLIC

FORMALIN MINT

CHERRY

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AND

NINE OTHER VARIETIES.



Chemist's own Name and Address
on 3 dozen :

3/6 per doz.

36/- per gross.

CARTONS 6d. per doz. extra.



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